

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2594.—Vol. LV.

LONDON, SATURDAY, MAY 9, 1885.

PRICE SIXPENCE.
BY POST, £1 4s. PER ANNUM.

**MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.**

BUSINESS transacted in all descriptions of MINING STOCKS and SHARES (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in STOCKS and SHARES not having a general market value.

Every week a GENERAL and RELIABLE LIST issued (a copy of which will be forwarded on application), containing closing prices.

BANKERS: CITY BANK, London.—SOUTH CORNWALL BANK, St. Austell.

TELEPHONE NUMBER 1003.

SPECIAL DEALINGS in the following (or part):—

100 Asia Minor, 3s. 3d.	25 Gunns (Oilt.), 7s.	25 Phoenix United, 10s 9
100 Alkankoo, f. pd., 5s.	100 Hoover Hill, 6s.	25 Panulillo, £1 17s.
100 Almada, 3s. 3d.	50 Home Mines Trust, 13s. 6d.	50 Prince of Wales, 3s 6d
100 Bedford United, 17s 6	25 Leadhill, 24s. 6d.	70 Festarens, 1s.
100 Balkis, 2s. 3d.	200 Indian Consol., 4s. 3	10 Rio Tinto, £9 16s. 3d.
100 Bratsberg, 14s.	50 Javali, 2s. 6d.	50 Ruby (New), 5s. 6d.
100 Cankin Bamoo, 1s.	50 Kapanga, 6d.	20 Richmond, £3 3s. 9d.
100 Carn Camborne, 4s.	20 Killifreigh, 9s.	10 Roman Grav., £3 1s 3
100 Callao Bis, 10s.	25 Kim. No. Block, 20s.	50 Schwab's Gully, 80
100 Cartago, f. pd., 4s. 6d.	100 Kohinoor B, 4s. 3d.	80 Spitzkop, 7s.
100 Odom. Hyd., 8s. 9d.	100 La Plata, 5s. 6d.	50 South Caradon, 5s.
100 Cape Copper, £31 10s.	25 La Trinidad, 4s.	5 So. Condurow, £7 17s 6
100 California, 4s. 9d.	25 Leadhill, 24s. 6d.	20 South Darren, 5s.
100 Colorado, £1 12s. 9d.	200 Lisbon-Berlyn, 3s. 3d.	60 South Penitential, 60
100 Canada Copper, 3s. 3	25 Marke Valley, 4s.	100 Tambracherry, 5s. 6d.
100 Chontales, 2s. 6d.	20 Mason & Barry, £3 8 9	30 Tollima A, £3 13s. 9d.
100 Cor. South Australian Copper, 1s.	200 Monte Bay, 3s. 3d.	20 ditto B, £2 7s. 6d.
100 Cootacovil, 6d.	50 Mysore Gold, 35s.	100 Transvaal Gold, 2s 6d
100 De Beer's, £4 15s.	100 New Chile, 17s. 6d., 6s3	40 Tregontrees, 2s. 6d.
100 Denver, 1s. 6d.	100 Nacopal, 1s. 9d.	100 Trevaunance, £2 17s 6
100 Devala Moya, 3s. 6d.	50 New Caradon, 9d.	20 Utd. Mexican, £3 1s 3
100 Devon Cons., £2 1s. 3d	50 New Callao, 3s. 9d	50 Van, 13s. 9d.
100 Devon Friend, 1s.	25 New Emma, 5s.	100 Victoria Gold, 6s.
100 Dolcoath, £29 15s.	25 New Kitty, 17s.	75 Wassau Gold, 12s. 6d.
100 Don Pedro, 3s. 3d.	200 Nouveau Monde, 2s.	50 West Basset, £2 1/2s.
100 Drakeville, 4s.	100 New W. Caradon, 1s 3	15 Wheel Agar, £16 5s.
100 Duchy Peru, 10s.	50 Nine Reefs, 3s. 6d.	10 Wh. Basset, £7 3s. 9d.
100 E. Blue Hills, 15s.	100 Old Shepherd, 5s. 6d	100 West Callao, 2s.
100 Eberhardt, 2s. 3d.	50 Orogum, 2s. 3d.	100 West Phoenix, 2s.
100 East Lovell, 1s.	100 Organos, 6s. 3d.	50 West Caradon, 6d.
100 East Wh. Rose, 4s. 3d	100 Orita, 15s. 6d.	100 West Orebor, 1s.
100 Ecton, 18s. 9d.	100 Oscar, 17s. 6d. paid,	50 West Polbreen, 14s.
100 El Callao, £52 10s.	7s.	10 West Kitty, £3 6d.
100 Frontino, 7s.	180 Oscar Vendors', fully	60 Wheel Coates, 2s. 6d.
100 Goggin, 1s. 6d.	paid, 6s.	100 Wheel Orebor, 19s. 6d
100 Gold Coast, 2s.	25 Polberro, £2 2s. 6d.	20 Wheel Kitty, 10s.
100 Glenrock, 3s. 3d.	100 Potosi (New), 6s. 6d.	75 Wynad Percey, 1s.
100 Great Highway, 10s.	75 Port Phillip, 1s. 6d.	

* BUSINESS at CLOSE PRICES in all marketable TIN, COPPER, LEAD, GOLD, SILVER, and DIAMOND SHARES.

* SHARES SOLD for the USUAL FORTNIGHTLY SETTLEMENT.

* SHARES SOLD at SPECIAL PRICES FOR FORWARD DELIVERY ONE, TWO, or THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

HOME RAILWAYS.—SPECIAL BUSINESS.—Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

AMERICAN, CANADIAN, AND FOREIGN RAILS.—SPECIAL BUSINESS. Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

BANK, OMNIBUS, TRAMWAY, GAS, WATER, and CANAL SHARES.

BUSINESS in all the above, and fortnightly accounts opened.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MISCELLANEOUS SHARES of all DESCRIPTIONS BOUGHT or SOLD. SPECIAL BUSINESS IN:—

AQUARIUM. IRON and COAL. ELECTRIC LIGHT.

And other COMMERCIAL or INDUSTRIAL SHARES.

* Special Business in Bryant and May (Limited).

SHARES SOLD for FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

OPTIONS in all STOCKS and SHARES dealt in.—

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

DIAMOND SHARES OF SOUTH AFRICA.—

ADAMANT DIAMOND. FRENCH and D'ESTERRE DIAMOND.

ANGLO AFRICAN. DIAMOND.

BRITISH DIAMOND. KIMBERLEY CENTRAL, KIMBERLEY NORTH BLOCK, FRENCH DIAMOND. PHENIX DIAMOND.

SCHWAB'S GULLY.

BUSINESS in the ABOVE at CLOSE MARKET PRICES for USUAL FORTNIGHTLY SETTLEMENT.

SHARES SOLD for FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

SCHWAB'S GULLY DIAMOND SHARES.—

DE BEER'S DIAMOND SHARES.

SPECIAL BUSINESS in the above, either for CURRENT SETTLEMENT or FORWARD DELIVERY (one, two, or three months), on DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

TRANSVAAL GOLD SHARES.—SPECIAL BUSINESS IN:—

BALKIS. LISBON-BERLYN. GRASKOPS. SPITZKOP.

Shares in the above Companies sold for the usual Fortnightly Settlement, or forward delivery (one, two, or three months) on deposit of twenty per cent.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

CALLAO MINE (Venezuela), paying regular MONTHLY DIVIDENDS, and at present market quotations yielding about 18 per cent. per annum. SPECIAL BUSINESS in these Shares.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

GOLD AND SILVER MINES.—INDIAN, NORTH AMERICAN, SOUTH AMERICAN, WEST AFRICAN, SOUTH AFRICAN, and AMERICAN Mining Shares.

BUSINESS as BUYER or SELLER in all the above.

Shares Sold for Fortnightly Account.

Shares Sold for Forward Delivery (one, two, or three months) on deposit of twenty per cent.

JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,

No. 1, FINCH LANE, LONDON, E.C.

ESTABLISHED 1842.

LONDON BANKERS.—THE CITY BANK.

BRITISH AND FOREIGN MINING OFFICES.

Messrs. PETER WATSON AND CO.,

12, AUSTIN PRIARS, OLD BROAD STREET, LONDON, E.C.

BANKERS: THE ALLIANCE BANK (Limited).

Messrs. PETER WATSON AND CO.'S

BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 871, Vol. XVII., for MAY month, will shortly be ready, and will be sent to customers on application.

Annual Subscription 5s. | Single Copy 6d.

NOTICE OF REMOVAL.

MR. ALFRED E. COOKE begs to notify his REMOVAL to MORE CONVENIENT OFFICES—

No. 3, GEORGE YARD, LOMBARD STREET, E.C.

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,

3, GEORGE YARD, LOMBARD STREET, E.C.

ESTABLISHED 1853.

(NEARLY 19 YEARS IN OLD BROAD STREET.)

Mr. ALFRED E. COOKE can SELL the following shares, or any smaller marketable number at prices affixed FREE OF COMMISSION:—

50 Almada, 3s.	10 Home Mines Tr., 14s 6	40 Oscar, fully pd., 7s. 6
140 Balkis, 2s. 3d.	50 Indian Consol., 3s. 6d	40 Potosi, 6s. 6d.
20 Bratsberg.	30 La Plata (New), 5s. 6d	40 Prince of Wales.
30 Callao Bis, 10s. 6d.	60 Libon-Berlyn, 3s. 3d.	40 Ruby, 5s. 6d.
30 Chile Gold, 6s. 6d.	20 Leadhill, £1 1/2s.	25 Schwab's Gully, £3 1/2s.
30 Colombian Hyd., 8s 6	75 Mounts Bay, 3s. 3d.	20 South Kitty, 10s.
40 California Gold, 4s 9d	20 Mysore Gold.	5 Tollima A, £3 1/2s.
40 Cartago, f. pd., 4s.	30 New Callao, 3s. 3d.	25 Trevaunance, 3s. 9d.
10 Colorado, £1 13s. 9d.	10 New Kitty, 17s. 6d.	10 Utd. Mexican, £3.
100 Denver, 1s. 6d.	150 Nouveau Monde, 2s.	40 Victoria Gold, 7s. 9d
30 East Blue Hills.	60 Nundydoo.	20 Van, 15s. 9d.
50 East Wheel Rose, 4s 8	30 Old Shepherds, 6s.	40 West Callao, 2s. 3d.
15 Ecton, 20s.	20 Organos, 6s. 6d.	10 West Kitty, £3 1/2s.
1 El Callao.	10 Orita, 15s.	15 Wheel Orebor.
30 Hoover Hill, 6s.	100 Oscar, 17s. 6d. p.d. 6s 9	

MANY of the ABOVE SHARES can be supplied for END OF JUNE account on cash DEPOSIT of TEN PER CENT.

RUSSIAN BONDS. AMERICAN STOCKS. RAILWAY STOCKS.

PRICES are received at Mr. COOKE'S OFFICES by TELEGRAPH CONTINUOUSLY throughout the day from the STOCK EXCHANGE.

BUSINESS TRANSACTED at CLOSEST CURRENT PRICES, FREE OF COMMISSION, in all STOCK EXCHANGE SECURITIES either for SPECULATION or INVESTMENT.

LIMITED LIABILITY on SPECULATIONS in RUSSIANS, EGYPTIANS, SUEZ CANAL, RAILWAYS, &c.

ALFRED E. COOKE, 3, GEORGE YARD, LOMBARD STREET, LONDON.

ESTABLISHED 1853.

BANKERS: ROYAL EXCHANGE (Limited), London.

MR. JAMES STOCKER, STOCKBROKER,

3, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Has Special Business in the following for cash or settlement by arrangement free of commission:—

70 Almada, 3s. 3d.	100 Ecton, 12s. 9d.	70 Old Shepherds, 5s. 9d
70 Akankoo, 4s. 3d.	55 Frontino, 6s. 9d.	80 Orita, 21s.
100 Balkis, 2s. 3d.	90 Glenrock, 3s.	45 Organos, 6s. 9d.
60 Bratsberg, 11s.	40 Great Highway.	35 Oscar Gold, 6s. 9d.
60 Birdseye.	30 Great Lacey, £8 1/2s.	70 Port Phillip, 2s.
60 Cartago, 4s. 3d.	60 Home Mines, 13s.	40 Panulillo, 40s.
100 Californian, 4s. 3d.	60 Hoover Hill, 6s.	60 Potosi (New), 5s. 9d.
60 Callao Bis, 10s.	100 Ind. Consol., 4s.	45 Polberro, 42s. 6d.
45 Carn Camborne, 4s.	50 Kohinoor B, 4s.	50 Prince of Wales, 3s. 9
75 Chile Gold, 6s. 3d.	50 La Plata, 5s. 6d.	30 Richmond, £2 1/2s.
100 Chontales, 2s. 6d.	30 Leadhill, 23s.	70 Ruby, 5s. 3d.
50 Colombian, 9s.	80 Lisbon-Berlyn, 3s. 3d	40 Rio Tinto, 9s.
55 Copper Queen	30 La Trinidad.	20 Schwab's Gully, 63s.
25 Colorado, 32s. 6d.	40 Metal and Flow.	80 Transvaal Gold, 2s. 3d
70 Devala, 3s. 6d.	40 Montana, 34s.	25 Tollima A, 3s.
100 Denver, 1s. 6d.	40 Mysore Gold, 33s. 9d.	40 Tollima B.
30 East Blue Hills, 14s.	65 New Callao, 3s. 9d.	30 Trevaunance, 43s.
50 East Rose, 4s. 9d.	75 Nouveau Monde, 1s 9	25 Utd. Mexican, £3.
150 Eberhardt, 2s. 3d.	60 Nundydoo, 6s. 6d.	50 Victoria Gold, 7s. 9d.
	60 New Emma, 4s. 6d.	60 West Callao, 2s. 3d.

The following SHARES WANTED for CASH:—

100 Montana. 80 Colombian. 50 Tollima B.

70 Nundydoo. 40 Bratsberg. 50 Orita.

Railways, Foreign Bonds, Gold and Silver Mines, Miscellaneous Shares, and all Stock Exchange Securities.

ESTABLISHED 1851.

BANKERS: LONDON AND WESTMINSTER.

JOHN B. REYNOLDS,

STOCK AND SHARE DEALER,

37, WALBROOK, LONDON, E.C.

Business transacted at net prices, and for cash in all classes of stocks and shares.

SPECIALITY.

Cornish Mines, excepting those worked on the Limited Liability principle.

A favourable selection of mines for speculation can now be made.

Reliable information can be obtained concerning the Saint Agnes Mines—worked upon the "No Credit" principle—especially Polberro, Trevaunance, and West Polbreen.

BEAZLEY AND CO., STOCK AND SHARE DEALERS,

6 AND 7, COLEMAN STREET, LONDON, E.C.

ESTABLISHED 25 YEARS.

BRITISH and FOREIGN MINE SHARES not quoted below BOUGHT and SOLD at CLOSE MARKET PRICES.

ALL BUSINESS DONE AT NET PRICES FOR CASH, ACCOUNT, OR FORWARD DELIVERY.

SELLERS and BUYERS should send FIRM ORDERS at once.

CLOSING PRICES, FRIDAY, 28th MAY, 4 P.M.

Buyers.	Sellers.	Buyers.	Sellers.
Almada..... £ 0 2 6	£ 0 3 0	La Plata..... £ 0 5 0	£ 0 5 9
Bratsberg..... 0 12 0	0 14 0	La Trinidad..... 1 15 0	2 0 0
Balkis..... 0 1 9	0 2 3	Mysore..... 1 12 6	1 15 0
Callao Bis..... 0 9 0	0 10 6	Montana..... 1 10 0	1 12 6
California..... 0 4 0	0 4 9	Nundydoo..... 0 6 3	0 8 0
Colombian..... 0 7 8	0 8 8	Nouveau Monde..... 0 1 0	0 2 0
Colorado..... 1 10 0	1 12 6	New Potosi..... 0 5 6	0 6 6
Cartago, f. p..... 0 3 3	0 4 3	New Chile..... 0 5 9	0 6 6
Denver..... 0 1 0	0 1 6	New Callao..... 0 2 0	0 3 3
East Wh. Rose..... 9 4 3	0 5 0	Oscar, vendors..... 0 8 0	0 8 0
Eberhardt..... 0 1 9	0 2 6	Oscar, fully paid..... 0 8 6	0 10 0
East Blue Hills..... 0 12 0	0 15 0	Orita..... 0 16 0	0 18 0
Frontino..... 0 7 0	0 8 0	Organos..... 0 5 0	0 7 0
Great Zarama..... 0 5 0	0 7 0	Prince of Wales..... 0 3 0	0 4 6
Home M. Trust..... 0 13 0	0 15 0	Ruby..... 0 4 9	0 5 9
Hoover Hill..... 0 5 0	0 6 8	Schwab's Gully..... 3 0 0	3 5 0
Indian Consol..... 0 3 0	0 3 9	Transvaal..... 0 2 6	0 4 0
Kohinoor B..... 0 4 0	0 5 0	Utd. Mexican..... 17 6	3 2 6
Libon-Berlyn..... 0 2 9	0 3 3	West Callao..... 0 2 0	0 2 6

CASH PURCHASES.—SPECIAL FACILITIES for IMMEDIATE SETTLEMENT and DELIVERY OF SHARES.

Shares supplied for FORWARD DELIVERY on BEST POSSIBLE TERMS.

BEAZLEY AND CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.

METALS.—FRIDAY, 4 P.M.—TIN, £82 to £82 10s.;

COPPER, £44 12s. 6d. to £45; IRON, 41s. 11 1/2d.

BEAZLEY AND CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.

MR. WILLIAM H. BUMPUS, STOCK BROKER

AND MINING SHARE DEALER,

44, THREADNEEDLE STREET, LONDON, E.C.

[Established at this Address in 1857.]

BUSINESS transacted in ALL STOCK EXCHANGE SECURITIES, MINING and MISCELLANEOUS SHARES of every description.

An INVESTMENT LIST free on application.

SPECIAL BUSINESS in the undermentioned:—

100 Akankoo, 6s. 6d.	60 Frontino, 7s. 6d.	25 Panulillo, £2 2s. 6d.
150 Almada, 3s. 3d.	5 Great Lacey, £8 1/2s.	40 Polberro.
50 Bratsberg, 14s.	100 Glenrock, 3s.	100 Prince of Wales, 5s.
250 Balkis, 2s. 3d.	150 Hoover Hill, 6s.	25 Quebrada, £2 3s. 9d.
75 Callao Bis, 9s. 9d.	100 Indian Cons., 4s.	15 Roman Grav., £3 1/2s.
100 California, 4s. 9d.	75 Kohinoor B, 4s.	30 Richmond, £3 1/2s.
5 Cape Copper, £32.	120 La Plata, 5s. 6d.	10 Rio Tinto, £3 1/2s.
25 Chontales, 3s.	20 Leadhill, 25s.	100 South Caradon, 4s.
25 Coplopo, £2 1s.	100 Mounts Bay, 3s. 6d.	150 Spitzkop.
100 Chontales, 3s.	10 Mason and Barry, 8 1/2	40 Schwab's Gully, £3 1/2s.
20 Devon Consols, £2.	50 Mysore, 34s. 6d.	25 Trevaunance.
100 Denver, 1s. 6d.	50 Marke Valley, 7s. 6d.	100 Transvaal, 2s. 6d.
100 Devala Moya, 4s.	100 Nundydoo, 9s.	15 Tharals, £5.
40 De Beer's, £5.	200 Nouveau Monde, 2s. 3	25 Utd. Mexican, £3 1/2s.
50 Ecton, 20s. 6d.	150 New Potosi, 6s. 6d.	50 Van, 21s. 3d.
25 East Blue Hills, 15s.	100 New Chile, 6s. 6d.	15 Wheel Grenville, £3 1/2s.
200 Eberhardt, 2s. 9d.	75 New Emma, 6s.	10 West Kitty, £2 1/2s.
100 East Wheel Rose.	100 New Ruby, 5s. 6d.	100 Wheel Orebor, 20s. 6d
	50 Organos, 7s. 6d.	50 W. Godolphin, 23s. 9d
	50 Orita, 20s.	

Where prices are not inserted offers may be made.

* The present is a most favourable opportunity for investing in SOUND MINING SECURITIES, a judicious purchase of which at the low prices now ruling will, in all probability, result in large profits within the next few months.

WHEEL GRENVILLE and WEST GODOLPHIN shares recommended.

BELL'S ASBESTOS.

BELL'S PATENT ASBESTOS BLOCK PACKING for High-Pressure Engines.
The following testimonials refer to this Packing:—

Mona Lodge, Amlwch, Anglesey,

2nd August, 1884.

DEAR SIR,—I have much pleasure in answering your note. Bad times in mining have compelled me to try all kinds of expedients in order to effect saving; some have succeeded and some have failed, but my underground manager, Capt. Hughes, has just said to me by the telephone—“The Asbestos Packing is the best thing ever brought here.” It saves money and trouble, but like my gas purifying oxide it lasts so long that you must not expect another order from me for twelve months at least.

Mr. J. Bell.

Manchester, Sheffield, and Lincolnshire Railway—Steamship Department, Grimsby, April 10th, 1884.

DEAR SIR,—I have much pleasure in stating that after a trial of over nine months, and comparing it with other packings, I can confidently recommend your Asbestos Packing. It is especially valuable when high pressures are employed, as in cases where other packings have perished, owing to high temperatures, your packing has invariably stood well. I have also used it with complete success when a gland has heated with other packings, and also in cases of badly scored piston rods. I consider the results I have obtained by its use for our marine engines to have been in every way highly satisfactory.

Mr. J. Bell.

Department of the Director of Navy Contracts, Admiralty, Whitehall, 20th June, 1884.

SIR,—I have to inform you that your tender has been accepted for Bell's Rolled Cloth Asbestos Packing to sample submitted:—Elastic core ... Square.

To Mr. John Bell.

JOHN COLLETT, Director of Navy Contracts.

BELL'S ASBESTOS BOILER PRESERVATIVE.—This useful mixture by absorbing the free oxygen that is in the water entirely checks pitting and corrosion. It also disintegrates incrustation so immediately as to prevent its adhering to the plates. Not only is a great economy of fuel effected by keeping boilers clean, but the risk of having the plates burned is thereby obviated. It has been computed that $\frac{1}{16}$ in. thick of incrustation causes a waste of 15 per cent. of coal; $\frac{1}{8}$ in., 60 per cent.; $\frac{1}{4}$ in., 150 per cent.

Thus the Preservative avoids the great risks which are inseparable from scaled plates, lengthens the life of a boiler, and covers its own cost a hundredfold by economy of fuel.

It is entirely harmless, and has no injurious action on metals. It can be put into the feed tank or boiler, as may be most convenient.

Sold in drums and casks bearing the Trade Mark, without which none is genuine.

BELL'S ASBESTOS YARN and SOAPSTONE PACKING for Locomotives and all Stationary Engines running at very high speed with intense friction.

Sandwell Park Colliery, Smethwick, 1st February, 1884.

To Bell's Asbestos Works.
DEAR SIR,—I have much pleasure in stating that I have used your Asbestos Packing for the last 13 months for our large winding engines which are running night and day, and also for the fan, pumping, and hauling engines at the above Colliery, and during that period we have not used more than one-third the Packing we had formerly; and this I attribute to your Packing on account of its great durability and general excellence of quality.

I am, dear Sir,

Yours faithfully,

THOMAS WINTER, Colliery Engineer.



BELL'S ASBESTOS.

The goods of this house are of the highest quality only, and no attempt is made to compete with other manufacturers by the supply of inferior materials at low prices. All “home” orders should be sent direct to the undermentioned depots and not through Agents or Factors.

BELL'S ASBESTOS BOILER AND PIPE COVERING COMPOSITION, for coating every class of steam pipes and boilers, non-combustible and easily applied when steam is up; adheres to metals and preserves them from rust; prevents the unequal expansion and contraction of boilers exposed to weather; covers 50 per cent. more surface than any other coating, and is absolutely indestructible. It can be stripped off after many years' use, mixed up with 20 per cent. of fresh, and applied again. The composition is supplied dry, and is only to be mixed with water to the consistency required for use.

A Horizontal Boiler, 17 ft. 6 in. long, 15-H.P., gave the following results:—

Temperature on Plates - - - 186 deg.

Covering - - - 94 deg.

One ton of coal was saved per week, and although the fire was raked out every evening, 20 lbs. of steam were found in the boiler next morning.

The following Testimonials refer to this Covering:—

DEAR SIR,—It may interest you to know that we save exactly 40 per cent. in fuel through using your covering.

Yours truly, W. SANTO CRIMP, C.E., F.G.S.

The Tamar and Kit Hill Granite Company (Limited), Gunnislake, Tavistock, 8th April, 1884.

Mr. John Bell, Southwark, S.E.
SIR,—I have much pleasure in stating that the Asbestos covering applied by you to the boiler of our travelling crane at Kit Hill has yielded most remarkable results. Since it has been in use we have saved fully half our coals, and have effected a great saving in the time it takes to get up steam, which is often a matter of great importance to us. I should add that the crane runs on high ganties, and is fully exposed to all weather. I have formed the highest opinion of your Asbestos as used for this purpose, and as you are aware, have had another boiler similarly covered, though it has not since been used. I can most strongly recommend the material.

I am, Sir, yours faithfully, W. J. CHALK, Assoc. M. Inst. C.E., Engineer and Manager.

BELL'S ASBESTOS and INDIA-RUBBER WOVEN TAPE and SHEETING for making every class of Steam and Water Joints. It can be bent to the form required without puckering, and is especially useful in making joints of manhole and mudhole doors. It is kept in stock in rolls of 100 ft., from $\frac{1}{4}$ in. to 3 in. wide, and any thickness from $\frac{1}{16}$ in. upwards. Manhole covers can be lifted many times before the renewal of the jointing material is necessary. The same material is made up into sheets about 40 in. square, and each sheet bears the Trade Mark, without which none is genuine. It is very necessary to guard against imitations of this useful material, and to secure themselves against being supplied with these inferior articles at my price, users are recommended to see that every 10 ft. length of the Asbestos Tape purchased by them bears the Trade Mark.

The following copy of acceptance of tender refers to above:—

Department of the Director of Navy Contracts, Admiralty, Whitehall, S.W., 17th May, 1884.

SIR,—I have to inform you that your tender for Asbestos Millboard has been accepted.—Mr. John Bell.

JOHN COLLETT, Director of Navy Contracts.

BELL'S ASBESTOS EXPANSION SHEETING (PATENT).—This Sheeting is another combination of Asbestos with India-rubber, giving to the steam user the special advantages of both materials. The India-rubber Washer is protected from the action of heat and grease by an outer coating of vulcanized Asbestos Cloth, thus producing an excellent joint where expansion and contraction render other materials unserviceable. This material is admirably suited to steam pipe joints and every class of valve. Valves made of this material are very durable, as they are not subject to injury by oil.

ASBESTOLINE

—THE BEST LUBRICANT FOR ALL KINDS OF MACHINERY ASHORE OR AFLOAT.

2/3 Per lb.

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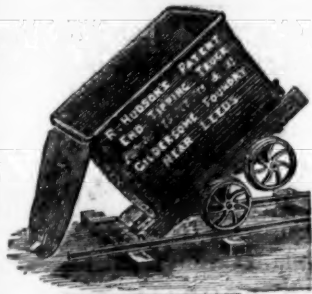
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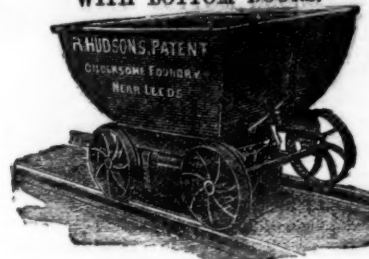
1.—PATENT STEEL END TIP WAGONS.



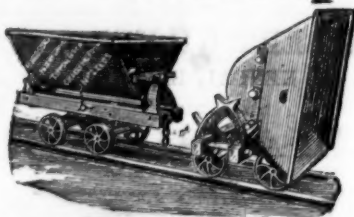
7.—PATENT STEEL MINING WAGONS.



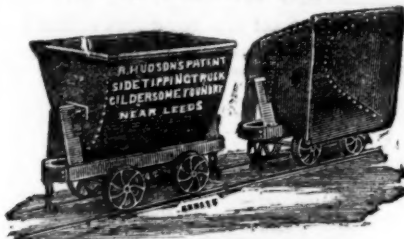
12.—PATENT STEEL HOPPER WAGON, WITH BOTTOM DOORS.



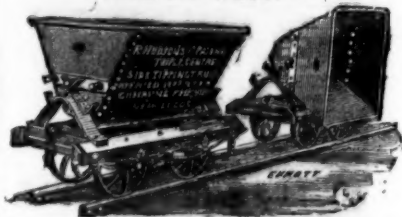
2.—PATENT UNIVERSAL TRIPLE-CENTRE STEEL TIPPING TRUCK, Will tip either side or either end of rails.



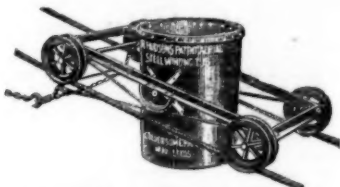
8.—PATENT DOUBLE-CENTRE STEEL SIDE TIP WAGONS, Will tip either side of Wagons.



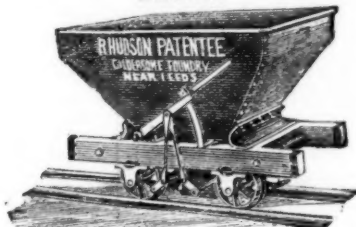
3.—PATENT TRIPLE-CENTRE STEEL SIDE TIP WAGONS.



18.—"AERIAL" STEEL WINDING TUB.



13.—PATENT STEEL HOPPER WAGON.



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19.—PATENT STEEL CHA GING BARROW.



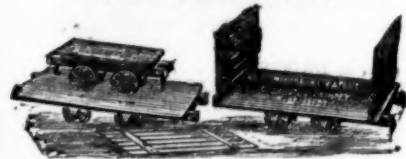
15.—R. Hudson's Patent Steel Cage
and "Fallers," &c., complete.



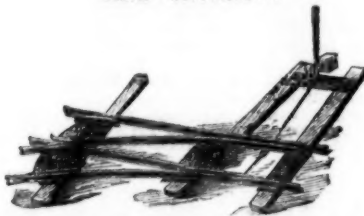
14.—SELF-RIGHTING STEEL TIP BUCKET. (The "CATCH" can also be made SELF- ACTING if desired.)



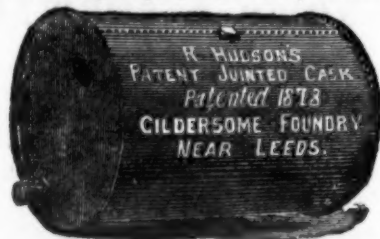
4.—PATENT STEEL PLATFORM OR SUGAR CANE WAGON.



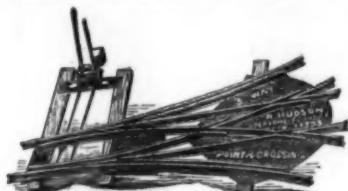
10.—LEFT-HAND STEEL POINT AND CROSSING.



5.—PATENT STEEL CASK. As supplied to H.M. War Office for the late war in Egypt. DOUBLES the STRENGTH of ordinary Casks without any INCREASE in weight. (Made from 10 gals. capacity UPWARDS to any desired size.)



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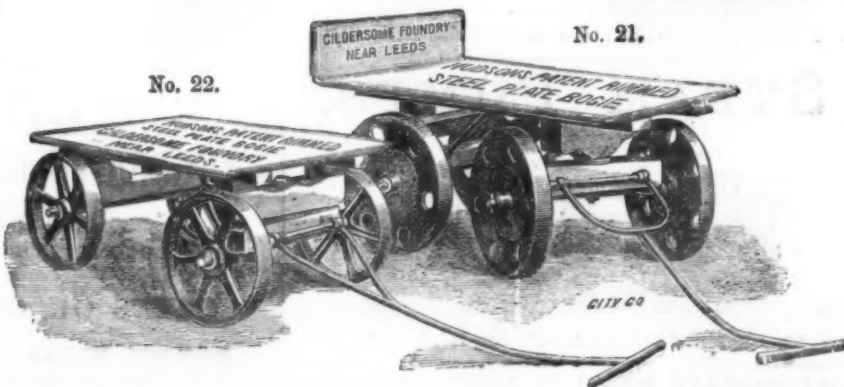
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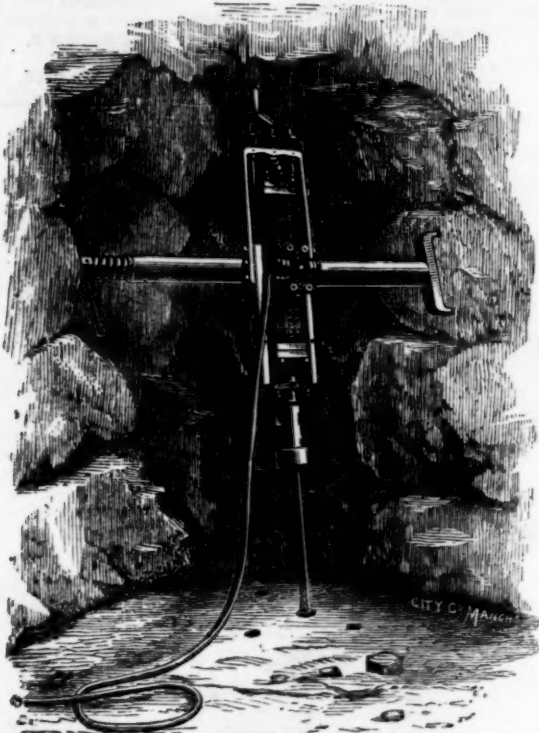
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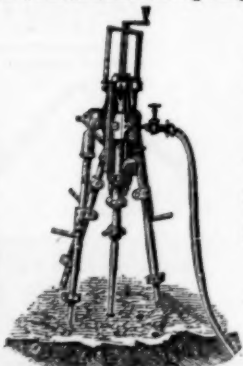
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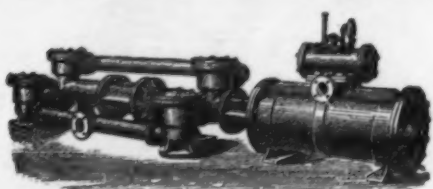
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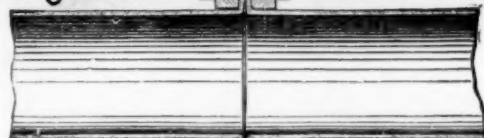
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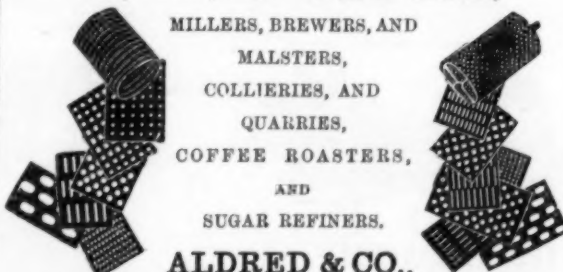
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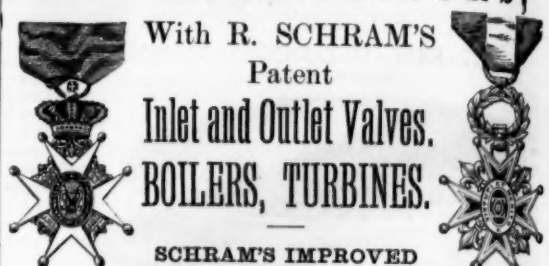
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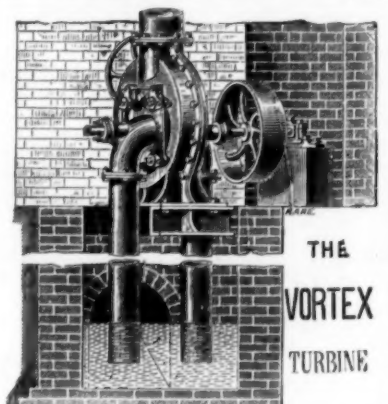
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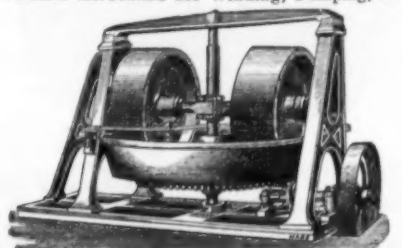
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WEST AFRICAN GOLD MINES.

SIR,—Several correspondents have been addressing you lately on the subject of West African mines and their management, and it must be disappointing to shareholders who have subscribed their capital, and had it squandered and lost for them through extravagant and incompetent management that so little good has resulted therefrom. It is now four years this month since I landed on the Gold Coast of West Africa as engineer to the Akankoo Gold Mining Company, my services having been secured by the directors to examine and report on the property prior to its final purchase. On my return from there in the July of that year, after my inspection of that and other properties on the Gold Coast, and the crushing of the bulk sample of quartz, I brought back from there the result of cutting through the lode in the shaft I sunk for that purpose, and handing in my report, the directors decided to purchase the property.

In the Journal of April 11 is a report on the Akankoo Mine, in which the following occurs:—"Continuing the sinking on the original prospecting shaft Mr. Harvey has extracted 8 tons 14 cwt. of quartz, which was separately crushed in the mill, and yielded 9 cwt. 13 dwts. 16 grs., equal to 1 oz. 2 dwts. 7 grs. per ton, thus clearly proving the rich and valuable character of the mine; and it is a remarkable fact that the actual crushing in the mill of the ore just taken from the prospect shaft corresponds with the assay value of the samples brought home by Mr. Cornish in 1881, from the same shaft, thus showing the correctness of the same." Any reports of the operations of the Akankoo or other mines are naturally interesting to me, and the quotation above referred to is, of course, satisfactory, as being confirmatory of the views I expressed in my report of the Akankoo, that "I believed the mine would pay well for capital judiciously invested in its development." Apart from my report to the directors of the Akankoo Company, I published in the *Mining Journal* soon afterwards some papers on my gold prospecting expedition to the West Coast of Africa, in which, while giving a favourable account of the gold prospects of the Coast generally, I deemed it necessary to caution companies against an extravagant expenditure of capital, and to point out some of the prominent features of mismanagement of mines then at work. In August, 1881, I said:—"The Akankoo being so favourably situated on the banks of a navigable river, and with prospects sufficient to warrant the legitimate development of the property, will, in all probability, be one of the first companies to be in regular work, and practically demonstrating the value of the West African gold fields."

"In the development of the mines in the Taquah district, which have now been in operation about four years, there has been a good deal of money spent that under more experienced direction might have been much better applied, and turned to more profitable account. From what I could see and learn of the general management of several of the mines there has been a want of practical knowledge in gold mining, as also of common sense or business capacity in the direction and general management of the works, and the ordinary purchasing and transporting of goods and material wholly unnecessary for the development of the mines, and when the carriage of goods and machinery overlaid by native carriers has to be considered the greatest care should be taken that no goods or machinery should be sent to the mines but what are absolutely essential, and those that are sent should be the best and most effective of the kind."

"If the gold fields of West Africa are to be profitably worked it will be necessary that companies exercise economy in their expenditure, a judicious selection of experienced officers and miners to direct and superintend the native labourers, as also in the selection and erection of suitable machinery, and not to pay too high a premium for the privilege of prospecting a mine. The question of area and boundaries as also of titles will be one requiring careful investigation."

It is a matter of regret that a district which offered such favourable prospects for profitable gold mining should have been so miserably muddled and brought into disrepute by childish jealousy and general mismanagement.

The fault lies chiefly with the directors and vendors of the several companies formed for mining on that Coast, who having no practical knowledge of the requirements of gold mining themselves refused to be guided by the advice of those who had experience, and, in fact, even went in direct opposition to such advice.

At the time of the Akankoo Prospecting Expedition leaving England for the Gold Coast in March, 1881, under my charge, there was at the time considerable attention being given to the prospects of gold mining on the West Coast of Africa, and at the first meeting of the company the Chairman congratulated the shareholders on "having secured the services of the most experienced gold mining engineer that could be found in England to prospect and report on their property." Such being the case, and the property purchased on the faith of my report, and the prospective value of other properties belated on the strength of my statements that the Gold Coast presented many favourable opportunities for legitimate and profitable gold mining, it may seem strange why there has been so many disastrous failures out there. The cause is easy of explanation. The Akankoo Company being one of the leading companies on the Coast, not being content with the advice I gave the directors in written reports and verbally at their board meeting assumed a presumptuous position that they knew more about gold mining than I did, and having engaged me as their consulting engineer commenced to dictate to me how I should proceed with my work of opening up the mine. Their views of practical gold mining and mine did not agree in any way. The directors wanted me to rush out a lot of expensive and useless machinery on to the mine before it was opened out or before I had sufficient evidence to justify my doing so.

Of course, I saw through the object easy enough, which was that if I recommended the sending out of a lot of useless machinery before opening the mine that the fact of doing so would have caused a big rise in the shares. I told the directors I could not accede to their views. I remember well at one of the board meetings it was remarked by one of the interested vendors "that gold mining was nothing, it was only digging a hole in the ground," who asked why I could not put on 1000 men and put up a 100-stamp mill, that they had plenty of money, &c. I replied that I could not utilise the labour of 1000 men, and that my object was to open up the mine in a workmanlike manner, and prove that the quartz lodes were likely to be payable in depth to justify me in putting up, say, a 20-stamp mill, with power of increasing as circumstances would warrant. And as the directors seemed desirous of coercing me to adopt a line of policy that would have resulted in wasting their capital and making my operations appear ridiculous in the eyes of experienced miners I refused to accord with their views, and I distinctly told the directors that they misunderstood my position. That as consulting engineer to the company, for which they had engaged my services, "my duty was to advise the directors" as to how the mining operations were to be conducted, and not to be advised by them. That I had a reputation as a practical miner to sustain, acquired by long experience, which I could not afford to lose merely to gratify the whims and caprice of inexperienced persons. The directors finding that I was not sufficiently pliable to their ideas of mining, determined to dispense with my advice, and carry out their own ideas of mining, which they did by ordering a 20-head stamp mill and machinery; this being deemed unsuitable by their second engineer the company had to pay 900*l.* as compensation for not taking it. That was lesson No. 1.

Now, after four years have been spent and all the capital, nearly 50,000*l.*, much of it in experimental and ornamental work, and the shares depreciated in value, it is now found necessary to raise more capital to really commence opening up the mine in a proper way, as it should have been done from the commencement.

The Akankoo Company have, therefore had to pay rather dearly for experimental mining and gratifying the whims of inexperienced persons, who have been endeavouring to teach themselves how to conduct gold mining operations at other people's expense.

In giving my views and advice on the prospects of gold mining on the West Coast of Africa, I was of course cautious and guarded in my expressions, knowing how easy it is during an exciting period to cause unnecessary expenditure in prospecting for gold, and I can but think that if the Akankoo and other companies on the Gold Coast had followed the advice I laid down in 1881, they would have been in much more favourable positions than they now occupy, nor would so much unnecessary discredit have been thrown on the industry of gold mining which in other parts of the world, where conducted in a business-like way, has been and is now so profitable.

Directors and shareholders of companies should have learnt by this time that it is not a wise policy to start mining educational establishments in foreign countries to send their proteges, friends, and amateurs to be educated at other people's expense.

The great mistake that many companies have made, and do make, is in squandering too much capital in ornamental or useless surface-works and expensive management instead of practical explorations underground, where the profits have to come from. Most of the African mines should long ere this have been giving good returns if the business and works had been conducted with prudence and judgment.

THOMAS CORNISH, M.E.

THE GOLD COAST MINES.

SIR,—Will you kindly allow me space in your valuable Journal for a few remarks concerning the Gold Coast mines? It has been, and is still daily, being asked, why the gold mines in Western Africa have not paid? The reason is not far to seek, as several of your numerous correspondents have stated, amateur gold mining managers playing at mining have been the chief cause.

Secondly, had hydraulic and alluvial mining been resorted to more than it has been on the Gold Coast, the thousands of pounds squandered, and in some cases lavished, on useless machinery might have been expended to a far more profitable advantage on this system of gold mining in Western Africa, and I venture to say that several of the mines now lying dormant would, under practical management, have been now paying handsome dividends. One thing is certain, that most of these mines on the Gold Coast have been thoroughly prospected, and payable gold found on most all of them.

During my three or four years' close connection with these mines and residence in Western Africa, I have visited and prospected upwards of 30 concessions and properties, and on each of these I have washed, and seen washed, some hundreds of samples of clay and sand taken indiscriminately, and varying from $\frac{1}{4}$ to 14 ozs. of gold per ton of stuff. On all of these properties there is abundance of water and timber for all alluvial mining purposes, and in no part of Australia or New Zealand where I have been have I seen properties better situated and adapted for hydraulic and sluicing than some of these West African mines.

It is by simply washing in a number of wooden dishes or bowls this auriferous clay and sand in the gullies, ravines, and creeks, that the natives get the bulk of their gold, and not from the quartz, as is generally supposed in England. Of course there are exceptions, where the quartz is exceedingly rich that the natives work it; but their chief mode of working a reef is to sink numerous pits and burrow down along side the reef, and take away all soft casing, or that which will pound and wash easily, and then abandon the old pits and sink fresh ones, and in many cases leaving the reef standing quite bare. But as I have said before, the great bulk of gold that has been found, and is still being taken in Western Africa, is got from the alluvial deposits in the numerous valleys and old river beds, and I would strongly advocate hydraulic and alluvial mining for a great many of the mines on the Gold Coast, being convinced it will pay ten times better than quartz mining, and can be worked at about one-half the cost.

DAVID W. LOWMAN.
Manby-road, Leyton-road, Leyton, Essex, May 5.

GUINEA COAST GOLD COMPANY (LIMITED).

SIR,—As it is now nearly 15 months since the last general meeting that for the present year cannot be postponed much longer. There are good reasons for believing that the board will at this meeting recommend the raising of more capital. May I be allowed to say a few words through your columns to my fellow shareholders on this point. I may remark that there are two good reasons why the directors should wish to raise more money—one is that they would so insure their salaries for another couple of years, or even more, and salary is not an unimportant thing in their eyes. But there is another and much more serious reason, and I beg to call the earnest attention of shareholders to it, for they may rely on it the directors fully appreciate its importance.

At present, I cannot but believe that the directors are liable at law for the Irah prospectus, and I believe that the purchase of the Irah property can, under the circumstances, be impeached; but if shareholders delay the proceedings necessary to test these questions until more money is raised and spent that delay will be fatal, and will put them out of Court—of that they may be quite certain. The first question, then, is whether some of the shareholders should not at once form a committee, and take counsel's opinion on the situation.

But to return to the question of raising more capital, the ostensible reason for wanting more money will be that further crushing machinery is required, and we shall have plausible arguments and evidence offered to show what good results may be expected from the outlay. Now, as to this I observe—first, that whatever evidence is offered it will come to us through the directors—that is to say, through the same men who are responsible for the Irah prospectus, which we now know was one of the most mendacious documents ever issued by a board of directors. That they drew it I do not assert, but that they adopted it and circulated it, and got me to subscribe for shares on the faith of it, I know to my cost. Secondly, observe how contradictory is their evidence, such as it is, as to the value of the reef.

In the circular of September, 1883, the result of assay of "the average" of the reef is given at over 3 ozs. per ton. Now, at the general meeting in 1884 Mr. Sweet, the company's manager at the mines, said distinctly that he thought the average of the reef would give 18 to 20 dwts., and the board did not explain or contradict him, so that within a year the yield as estimated drops from over 3 ozs. to under 1 oz. Mr. Sweet, there can be no doubt, had in his mind at the time the result of another assay, which the board did not think it worth while to let us know of. Thirdly, what have other gold companies on the West African Coast done? What has the Effuents done? It was spoken of in the original prospectus as a certain success. Are its shares worth 1*s.* each now? And that "still more magnificent success" the Gold Coast Company? I believe its shares can be bought at 1*s.* apiece.

And the Wassau Company? If a summary of the last report, which I saw in one of the papers a week or two ago, was accurate, that report breathes more of despair than hope, and success seems to depend on a combination of circumstances that appeared to me to be unlikely to occur together.

But should the shareholders decide to raise more money, let me ask them, are the present directors the men to whom they would like the money to be entrusted? What are their credentials? Are they not, as I have pointed out, responsible for that scandalously misleading prospectus, which I have already referred to? Did they not purchase the Irah property without taking the most ordinary and usual precautions taken by purchasers? Were not two of them members of a syndicate who pocketed an enormous profit out of the sum that the company lost by this purchase? Is there a single member of the board who would have bought the property with his own money without having had it first surveyed on his behalf? Was not the question, reef or no reef, vital to this company, although of no importance to the syndicate?

That the interests of the company were deliberately sacrificed to the interests of the syndicate I do not say, but I do maintain that the company's interests were scandalously neglected by the directors when making this purchase. And what shall be said for men who could not only make such a reckless purchase, but could accept a conveyance which left them absolutely at the vendors' mercy when

they found that the rich reef was a myth? Could anything be more fatal to their characters as business men?

Then observe how they have treated us. When the meeting was held in March, 1883, they knew the worst, and they had in fact abandoned the Irah property, yet the report read at that meeting and the Chairman's speech led shareholders to believe that things were still going on favourably at Irah.

But if this reticence was not enough, a carefully-worded circular was issued in September, 1883, which spoke most hopefully of things at "the mines"—that is, the Irah Mines, for we know of no other, yet those mines were then abandoned, and had been for months.

Could anything be more insolent to shareholders than this sort of conduct by their paid servants? What right have such men to be considered and treated as gentlemen, and how is it possible that they can possess our confidence?

But I may be told it is all very well to criticise, what would you do? I would do this: Require the present board to resign, appoint a new board, and instruct it to have the property surveyed by a competent expert (Messrs. Taylor, the well-known mining engineers, could find the right man), and await his report. Meantime stop all expenditure not absolutely necessary. I should hope the new board would forego any fees until the report is received. When the report comes a meeting should be called, and then the company could determine what course to take.

New Broad-street, May 4.

GOLD COAST MINES.

SIR,—Mining investors should feel grateful for the upright and outspoken manner in which "NO." has written to you upon the above properties. As in all other trades and speculations honesty is the best policy and will reap its own reward. I hope "NO." will not cease denouncing bad management and the unscrupulous manner the African mines on the Gold Coast have been conducted from their inception. I am pleased to know that there are some of the mines looking promising. I will leave that fearless and indefatigable Mr. Gowans to account for the Gold Coast Mine. The Effuents, "NO." says, is in a state of metamorphosis, and the Taquah he infers to be a good property, and that they have some funds in hand, if so, what is doing and who benefits by it? Query, is there a board of directors? If so, will they not inform the innocent subscribers of the position of affairs? Since the last general meeting no reports, I understand, have been circulated. Your past correspondents seem to convey some light on the subject—as the money lasts the London experience will continue. It would be well if some one interested and intimately acquainted with the details of the company would come forward and explain through your Journal the affairs of the company from its inception. The price paid to the vendors, the amount paid to the promoters in cash and shares, the amount placed by the promoters, who it is reported undertook to place the whole of the capital, and finally, the names and addresses of the present directors (if any), the secretary, solicitor, managers, auditors, and if the auditors were the promoters. These are most important matters to arrive at, so as to place, if possible, this valuable property on a safe and sound basis. The Articles of Association, clause 15, say that a general meeting must take place in London not later than April in each year. It is to be deplored that gentlemen who hold such responsible positions, acting in trust for the widow and infant should treat this matter so lightly. There never was a more opportune time for gold mines than the present, where men of business capacities are at the helm of such undoubted rich properties as the Gold Coast range. Money is not wanting, but confidence; this desideratum once obtained and applied to their development, success is assured. I anxiously await that fearless pioneer (Mr. Gowans') promised version of the manipulation of the Gold Coast mines before extending my remarks.

E. W.
London, May 4.

GOLD COAST MINING COMPANY.

SIR,—I am glad to find that Mr. Gowans is about to give us some particulars respecting the above mine. I should like to ask him through the Journal if the 800 tons of tailings mentioned in the report of Mr. Haughton, and which that gentleman guaranteed to extract 2 ozs. of gold per ton from, are still on the mine, and if so whether in his opinion the Quicksilver-Wave Amalgamator would not quickly extract it. If it would do so the company by using one would soon be in possession of funds not only to pay for the machine, but also carry on the work of opening up the mine.

Somerton, Norfolk, May 4.

J. BUDD.

THE CARTAGO, AND OTHER VENEZUELAN GOLD MINES.

SIR,—Your correspondent, "Another Benighted Shareholder," thinks it an unusually extraordinary coincidence that two of the Callao companies occupying offices under the same roof as that of the Cartago should at one and the same time be now offering excuses to their disappointed shareholders upon the plea of the breaking down of machinery. He evidently does not belong to the Cartago (Limited). His astonishment will be considerably augmented when he learns that that company has also succumbed to the epidemic which—according to his letter—is now raging at the offices in Bishopsgate-street; and in putting down this as No. 3 it is an exceedingly interesting case, inasmuch as the company has only just bought the machinery, and the works have only just been commenced.

The directors are now calling up the last 6*d.* of shareholders' liabilities, and although the Tigre Mine was purchased by which it was said—upon the faith of a report of Mr. Skerchley—that the company would be in possession of an almost immediately dividend property, able to send over gold by October last. No gold has yet arrived, or is likely to arrive goodness knows when.

I am glad to see that shareholders in these companies are now coming forward. It is high time that they did, because the history of one of them is pretty well the history of them all. While most have been stimulated by Mr. Skerchley's representations all have traded upon the success of the Callao Mine. All have published what so far has been proved to be nonsensical estimates about ounces of gold which might realise fabulous yearly returns. All have nearly exhausted the subscribed capital—indeed some have exceeded it—without in the smallest degree remunerating those who have been seduced into finding the capital. All have been directed by men who were utterly ignorant of practical mining. It is to the interest of shareholders to bring the doings of these companies to public view before their money is hopelessly wasted, and I hope they will do so.—May 5.

CARTAGO SHAREHOLDER.

GOLD MINING AN INDUSTRY THAT PAYS.

SIR,—The failure of so many companies within the past few years, and the loss of so much money, doubtless hundreds and thousands of people who have been so unfortunate as to lose their money instead of regarding gold mining as an industry they are more apt to treat with scorn and contempt. Nevertheless, gold mining is a profitable industry when worked or managed by men who can, without the aid of chemistry, tell whether there is gold in paying quantities before it is put through the mill. How often is it the case that according to assay there are thousands of tons of stone or quartz before passing the mill is worth 1, 2, 3, and even 5 ozs. of gold per ton of stuff, but when passed only a few pennyweights can be found to be at all friendly with the mercury.

For why does the practical miner, with little or no capital at his command make gold mining a profitable industry? Speaking from experience, in the western part of America there are hundreds of miners who have gold in their claims, and if they only had the means to erect the necessary machinery, or could induce gentlemen of means to join them, they would not only receive good interest for their capital, but their fortunes easily and rapidly made. I am now speaking of alluvial or placer mining; but as I said before, it requires capital to make anything big out of it. In placer digging you must get on the bedrock, and in some places you have to sink from 60 ft. to 100 ft. through the sand and gravel, where there is almost sure to be found a rib of stuff from 6 in. to 3 ft. thick, very often smaller the richer it is. I have often seen \$5 worth of gold out of a pan of dirt. Some years ago I was acquainted with four men who had a claim in Colorado, where one of these drifts would show \$5 to a pan of dirt, but were drowned out, as they could not cope with

the water with their old wooden drawing-lift, and they could not then afford to buy an iron pump. But for the time they worked, about six months, they raised more gold than a great many large companies I have heard of who had been working for years.

Quartz Veins: There are a great many men in the western part of America who have located veins, but who have not the means to work them to any extent. I have often thought it would pay any well-established firm of mining engineers to adopt the same plan for procuring good mining properties as the Americans, such as the late Colonel D. Buell, Mr. Murphy, and the Messrs. Coon and Clarke, by sending two or three practical men prospecting or hunting-up good claims. These men did good service, and by their practical experience the fortunes of their employers were made. I am sure that it would pay any mining gentleman who was anxious to obtain a good gold-mining property to send two or more men in the western part of America. I received a letter some few days since from a man in Wyoming Territory who said he had located and drifted in a vein for about 60 ft., and for the whole distance gold was seen in the quartz. This man can do nothing with it, but would be glad to sell it for a small sum.

M. S.
Stoke Climaland, April 30.

TRANSAAL GOLD, EXPLORATION, AND LAND COMPANY.

SIR,—I have read Mr. John T. Cooper's letter, and as one knowing something of the company's property consider he has been very premature in condemning the same, especially after taking into consideration the fact of his having been only eight days on the property he could, to say the most, but have made the most superficial examination. Mr. Cooper should have ascertained that long previous to his visit the diggers were interdicted, and previous to that had been bothered and harassed by the Kaffir and Boer wars, consequently they had very few, if any, opportunities for prospecting, discovering, or even going in search of new alluvial ground.

Mr. Cooper could have gleaned a good deal of practical information from many of the diggers, who had very considerable experience of the country—experience gained from many years residence and prospecting in the various districts, and in many instances (to my personal knowledge) could have shown him new alluvial deposits. On this and other properties the knowledge and advice of the diggers have been entirely ignored, and they have been treated with contempt and drummed off the property. I contend that the Transvaal has suffered more through ornamental, expensive, and inexperienced management than by any other cause. Shareholders' money have been entrusted to thoroughly incompetent men, who have recklessly squandered it.

Roche, Cornwall, May 4.

THE RESPONSIBILITY OF OFFICIALS.

SIR,—In recent issues of the *Mining Journal*, leaders and letters have appeared which relate to mining and its management. I would suggest that shareholders in any company formed or already formed should endeavour to ascertain as to the practical knowledge directors possess of the mine in which they are about to have the direction of, and if upon enquiry it is found they do not understand the duties undertaken or to be engaged in, then becomes the necessity that a searching enquiry be made as to whom they look to for guidance and direction; if it be the secretary of the company they are dependent upon, then an important question arises as to what amount of knowledge he possesses practically of the undertaking; what are the number of the companies he is secretary for, if for several; if he has a sufficient amount of time at command that the interests of each in his capacity be served; as to the power he is invested with by the directors; if, whilst being a paid servant of a company, can he exercise a power on his own responsibility in opposition to the shareholders; as to what additional interest would be derived by him in the formation of a new company upon the previous company going into liquidation; also as to the disposal of shares, such business passing through his hands, particularly when dealing with shares that have been relinquished; if he has the power of withholding and removing correspondence of a manager from a shareholder who should wish to make extracts; or whether, as a paid servant, he possesses authority to tell a shareholder that he has the power to withhold correspondence and its being read, and leave the alternative with the suggestion that he must go to a superior court and obtain a mandamus.—*Bristol*.

W. B. PALMER.

WEST CALLAO GOLD MINING COMPANY.

SIR,—I am very glad to find two letters in last week's *Journal* from "Pangloss" and "Another Benighted Shareholder" in answer to, or rather in comment on, mine, contained in your issue of April 25 in reference to the above company. There is not much comfort, however, to be derived from either letter; both the writers seem to be in the same know-nothing state as I am—but no blame to them.

Can nothing be done by some large shareholders in London? We in the country are unable to move actively in the matter; but I am sure we would give all the assistance, pecuniary and otherwise, we could to stir up the matter, and let daylight in. I am glad that "Pangloss" has set out the companies (six) in which the directors of the West Callao are more or less interested. I am also a shareholder in four of them, and disapprove highly of the existing state of things.

As regards Cartago, which stands first on his list, the final call has been made now on the shareholders; and, I would ask, does one single shareholder in that company know how he stands, or what are his prospects?

We, the unfortunates in the Callao, will be only too thankful to you if you can give us any reliable information as to our outlook. It is of no use again and again applying to the secretary, for we shall not get any more information than is contained in the letter of "Another Benighted Shareholder."

May 4.

A BENIGHTED SHAREHOLDER.

CHINA CLAY DRYING.

SIR,—The notice in your valuable *Journal* respecting my invention for drying china clay and similar materials has so far interested your many readers that I hope you will spare a little space for a further description of the same. By present method intense heat is applied to one side of a layer of clay and the other side not at all affected by the heat for some hours, and then not so great as the under side, thus often causing sponginess and burning. This is not so by my method of forcing hot air through and over the clay. My apparatus has a perfectly airtight chamber all the way underneath the tiles, which form the bottom of the drying pan. The air in the chamber is heated by an iron tube and its appendages, which tube is telescoped at one end to provide the expansion by the heat, and in the other end is a fire-place. Air is forced into the chamber by means of a blower. This air is heated. Air retains the heat conducted to it as sensible heat, and is ready to part with it to the first substance through which it passes. Air has a capacity for dissolving water at all temperatures, and retaining it in solution. This capacity is in proportion to the temperature, and is doubled upon every advance of 27° Fahr. The heat conveyed to the clay by means of the air passing through and over it is done almost instantaneously. When the hot air is in the air-tight chamber under pressure where can it go but right through the pores of the tiles, and through the clay: 2 cubic feet of air passing through a superficial foot of tile per minute applied in this way at a temperature of 200° will dry a layer of clay 6 in. deep in six hours, and greater depths may be laid on, for by either increasing the heat or the quantity of air speedier results can be obtained. The whole process improves the clay both in colour and solidity. I have forced air through the various kinds of tiles now made, but that which answered best in my experiments I invented and made myself. This is also a great advantage, for they will be much cheaper than the tiles now used. The pressure required is 1 lb. to the square inch for a layer of clay 6 or 7 in. deep. A six-horse power engine, or water-wheel, is required for a dry 12 ft. wide, and 100 ft. long. With additional power the clay can be laid on the drying-pan deeper than is now done, and as the clay can be dried so much quicker it

will dispense with the necessity of such long dries. The saving in coal is enormous, for it can be very easily shown that large quantities of coal now used are wasted, because by proper means not more than one-fifth is needed to get the requisite temperature to dry the clay in a comparatively short time. This I have proved again and again, and from several data. Another important part of my invention is removable covers over the drying pan of some non-conducting material to prevent the radiation of the hot air, thus giving it time to fully do its work. The clay is thrown in, and taken off in the usual way. I am prepared to say that my method of drying is very superior to any, and it cannot in any way be superseded. My invention applies also to bricks, sturly, and other similar materials. An important point to clay producers is the fact that present dries can easily be altered at small cost.

I shall be pleased to communicate with any person or persons by letter, to answer questions, give any explanation, or description required.—*Lower Blowing House, St. Austell, Cornwall*.

JAMES BELL.

SPANISH GOLD MINES.

SIR,—The series of letters published in last week's *Journal* about Mr. Kitto's letter of 25th April affords pleasurable reading to shareholders in the particular mine on which he was able to give a favourable report, as well as to those fortunate people who applied for shares in the mine which the American expert cracked up, but had their money returned. Probably shareholders in the former would have taken a larger interest in it had they known as much of the reporting engineer as "Old Colonist."

The letter of "Madrileno" contains its own answer, for he says he is a shareholder in one of the companies whose property did not appear to Mr. Kitto to possess the boundless riches no doubt reported by the engineer on whose advice "Madrileno" relied. It is all very well to say that had he employed Mr. Kitto he should stipulate that his report should be for his sole use; but it is a little strange to find him complaining that others were generous enough to allow Mr. Kitto to send an account to the *Journal*, and thus put the British public on their guard against buying a few acres of gravel in the fond hope that a few miles of pipe would turn it into gold. From this point of view alone Mr. Kitto deserves the thanks of investors for what he has done. However, there is no need to despair; if only "M. E." and "Madrileno" will take a large interest in the Violetta Gold Placer, which no one has condemned, and which has been most favourably reported upon by Mr. Sowerby as well as Mr. Kitto (it being the first referred to above), they are likely to be far more than compensated for their losses in others. This being a "legitimate and bona fide company," expected to commence sluicing at the beginning of June, would be a far more sensible thing to put 500l. into, than a wild cat search. There may be one difficulty in the way of this—your correspondent may not be able to find anyone foolish enough to part with his shares, which I myself would not do at 2l. each.—*May 4*.

H. A.

THE SPANISH GOLD MINES.

SIR,—The *Mining Journal* is celebrated for its impartiality in allowing a fair discussion on any mining or commercial matters that is likely to be *pro bono publico*. I presume that persons who write reports must expect to be criticised, and I certainly do not object to a fair and open criticism; but I do object to persons who write adverse criticisms entreaching themselves behind a *nom de plume*. How do I know that they are what they profess to be? I know I have one or two bitter enemies in the City, whose virulent hatred would stick at nothing if they could do me a bad turn. Veritable "Oily Gammons" who crawl about like *Onguis in herba*, and by base insinuations vilify those whom they dare not attack openly. Although they impose upon some they have not "entered the straight gate" of mining, "but have climbed up some other way." I did not intend at first to reply to any of the six letters on the Spanish Gold Mines; but, as silence is often taken for weakness, I must endeavour to eschew a qualification to which I have no claim. The first letter, signed "C. F. R."—which may mean care for rheumatism for anything I know—says "no person doubts Mr. Kitto is well qualified to give an opinion on all kinds of mining, especially gold." Then why does he insinuate I am over cautious? I defy him or anybody to point to a single indecision in any of my reports. If I condemn a property it is decisive, and if I recommend a property as being good it is equally decisive. Whatever I pride myself on is no business of anybody; I always study to write my reports that they should not convey a double meaning. As to "carrying things with a high hand"—I do, with nincompoops.

Of course I know that 1 oz. of gold in some cases pays very well; but it depends on the quantity and the ease with which it is procured, and all the other surrounding circumstances. "C. F. R." misquoted me. I wrote "the best picked sample I brought away with me gave less than 1 oz. per ton." If he wishes to spend a few pounds in prospecting places I condemn let him do so by all means. But he would do better to give the money to me that I might show him a place where there is gold, and then both would be benefited.

"Mine Shareholder's" letter is fair. I may inform him that I do feel sure of my position, and the properties I have condemned he will do well to leave alone.

The letter of "Investor" is kind, and to the point. I am glad he has done well by acting on my advice in the past; I shall be happy to serve him equally well in the future.

"M. E." virtually asks me "to blow my own trumpet" when probably next week he would get another "M. E." to write complaining of my egotism. But if "M. E." will call here I will show him documentary evidence of my past experience, which, added to an unbounded confidence in myself, produces just the exact qualifications which enable me to condemn any mining property that I believe to be of no value, no matter who has gone before me or who is likely to come after.

"Old Colonist's" letter is certainly a queer epistle. If he knew me so well in the lively digging days, why does he not drop me a line personally, or call to see me? No person would be more delighted than I to see any of my old chums. However he names one or two circumstances which I also well remember, so I suppose he must have known me. I am sorry he speaks of the Spaniards as lazy; I do not think them lazy. If the working classes are properly directed they are good labourers, tough and wiry. It is true that the upper and middle classes through long years of excessive indulgence, suffer from inertia, with its attendant want of enterprise. Their education, habits, and hereditary prejudices have been the chief impediments to the development of their country, which for minerals, is undoubtedly the richest in Europe. I noticed everywhere amongst the inhabitants that inquisitive disposition, and desire for information which is undoubtedly the first step to improvement. Can we then believe that when the Spaniards see how the English companies set about getting the precious metal out of the gravel they will be content to remain passive onlookers? Not likely. My opinion is that attention having been directed to them from outside the Spaniards will soon work their own gold deposits. In my admiration for the country I almost forgot "Old Colonist," who I presume means very well, but I would much rather be "pitched into" than to be overdone with flattery.

"Madrileno's" letter I can only characterise as an illogical production bombastically portrayed. He says, "If I were to employ him"—It is important your readers should observe the *I*—I should stipulate that his report should be made for my sole use, and that he should not enlighten the British public at my expense. If Kitto ever enters into such an agreement with him either verbally or in writing he will adhere to his agreement at any sacrifice. The best feature I see about "Madrileno's" letter is his offer to put down 500l. What a lot of money he must have. I did not think there was any money left for speculating in mines, because within the last month or two I have seen as good gold mines as ever held by an English company going begging, and no person would look at them. Sir, I do not intend to answer "Madrileno's" letter in detail, because I think the letter of "Mine Shareholder" and "Investor" is a better answer than I could possibly give; but I should like to point out why I stipulated that I should be at liberty to send a summary of my report to the *Mining Journal*. In the first place, I had not the slightest belief in the Spanish gold mines. In the

next place, those who employed me said they wanted to learn the truth whether it was good or bad, and by stipulating that I should publish the reports I thought it would be a test of their sincerity. If I was going to examine mines in any well known gold centre I should have made no stipulation as to the publication of my reports; but Spain as a gold centre—notwithstanding the large quantities of gold raised by the ancients—is perfectly new to British enterprise, and, therefore, great caution is necessary at the outset.

If investors choose to follow the advice of those who are less cautious than me let them do so by all means, but in the event of failure let them saddle the right horse. The first property I condemned had been reported on by several experts who stated it would leave a profit of considerably over 200,000l. per annum; but I say it would be impossible to return 1 cwt. of gold from the place for twice the amount of what it would cost, and the same remark applies more or less to all the properties I have condemned, and "Madrileno" will do well to take note of this. I should have thought that all those who combined to send me over would have arranged to get a slice in any property that is really good, and if he does not allow his prejudice towards me to get the better of him, I advise him to put his spare five hundreds into the properties I have recommended. I have not condemned all the gold mines of Spain; on the contrary, I believe there are some placers very good, and I know of one place of very great extent which is very rich indeed as a bed of gold gravel. I will name one property definitely on which I wrote a favourable report.—*The Violetta*: This is a rich bed of gravel, and the profits will be regulated entirely according to the quantity of gravel which can be passed through the sluices. If 1000 cubic yards per day be passed through the profits will be about 35,000l. per annum, and they will be more or less according to the quantity of gravel treated. I hope this statement is definite enough to free me from the charge of over-caution. There are a great many more things I want to say which I must reserve for a future occasion, as I am afraid I have already trespassed too far on your valuable space.

THOMAS COLLINGWOOD KITTO.

Lulworth House, Gunnersbury, May 3.

THE CHONTALES COMPANY.

SIR,—Mr. Bell-Davies, who was paid 1000l. for giving his opinions in reference to the Chontales Company (Limited), makes this statement—that it ought to have been a paying-going concern from the commencement, and gives potent reasons for his assertion, and it is for shareholders to take more interest than they have hitherto done if they wish in either the Chontales or any other company to reap advantage from the stake they may hold.

W. B. PALMER.

All Saints-lane, Exchange, Bristol, May 6.

THE MONTANA COMPANY (LIMITED).

SIR,—As a shareholder in the Montana Company, will you allow me space in your valuable *Journal* to call attention to a few facts respecting this most valuable and extensive property? I had the pleasure of visiting and examining the company's mines and works in January last, and was highly pleased to find that, after nearly two years of what might be called wreckage, there was still an enormous quantity of good ore in sight in the old workings, above the Cruse level, and that all the four levels started by the present management between the Cruse and Maskelyne tunnel level were being driven in good ore. At the time of my visit nearly all of the ore supplying the 50 stamp-mill was being taken from the faces of the levels, and in mining the ore in that way they were developing at least 10 times as much ore standing in the lode between the levels as they were taking out. I am confident that the ore above the level of the Maskelyne tunnel will produce as a profit equal to several times the capital of the company. It should also be borne in mind that the ore is, at least, as good in the lowest level as at any point above, and in that formation there need be no fear of the ore giving out as greater depths are obtained.

The following table shows the monthly increase of profits and decrease of expenses since the first of this year:—

Product for January.....	\$53,792	Working expenses	\$29,075
" February	51,849	"	25,358
" March	82,320	"	28,000
" April	87,012	"	28,600
	\$274,973		\$111,024
Less discount on silver...	27,497		
	\$247,476		
Less working expenses..	111,026		

Profit, 136,450l., equals 27,194l. for the first four months, and estimating its present and next months' at only the same as April, this will add 20,000l.; so that we may fairly estimate that we will have earned at least 47,000l. for the present half-year, or over 7 per cent. of the capital, and I feel assured that we may expect at least half as much more, or about 75,000l. profit for the last half of this year; and all this is accomplished so easily that it is not found necessary to work the mine at night—in fact, it is only worked ten hours a day for six days in the week, and if the company had another 50-stamp mill there would be no trouble in supplying it with ore without pressing the mine, and our profits would be doubled. I hope the directors will take the matter of increased milling capacity into consideration at no late date; and, lastly, but by no means least, we should feel extremely thankful that we have a board of directors in whom we all have implicit confidence. They are competent and honourable gentlemen, and having got thoroughly honest and competent management at the mine we may rest assured of receiving handsome and increasing dividends after our half-yearly meeting in July, at which I have no doubt we will be called upon by the directors to vote ourselves a dividend. Those that have sold shares, hoping to buy them back at a lower figure, will very likely be compelled to pay a very considerable premium. If the shareholders generally knew the property and all the surroundings as I do I am sure the shares would be worth twice their present price to-day, for they are well worth it as an investment.

London, May 7.

EDWARD APPELGARTH.

NEW CALLAO.

SIR,—It is evident from the interesting correspondence in your valuable columns from "benighted shareholders" in the above and adjacent West Callao, that they, as myself, have failed in obtaining any information from the secretary, and thus are becoming uneasy at the suspicious *modus operandi* of the directors in keeping so resolutely in the dark, declining to furnish reports or to face their shareholders at a meeting. I would, therefore, suggest that a few of the shareholders in your City should thoroughly investigate the books, &c., call a meeting, and let us know our true position. We could then consider what further steps to take in the matter.

ANOTHER DELUDED SHAREHOLDER.

East-road, Levenshulme, May 7.

NEW AND WEST CALLAO.

SIR,—If "Pangloss" and "Benighted Shareholder" would take the trouble, as I have done, to write or call upon the secretary of the New and West Callao Mining Company, they would, I feel sure, have received the fullest information with every courtesy.

Although the mines in question have certainly met with great, and I may state, unexceptional difficulties and delays they have been the result, in great measure, of the absence of facilities in the part of the country where the mines are situated. I think it only fair, in justice to the secretary, to add, that but for his care and tact in the financial management, for which he is only responsible, the shareholders would not have reaped the advantages they have, as I am credibly informed that he has not for a long period only foregone all payment due to him for salary and offices, but induced the directors to forego their fees for attendances.

AN ORIGINAL SHAREHOLDER IN BOTH COMPANIES
FROM THEIR FORMATION.

Ivy House, Edgware-road, May 7.

ARGENTIFEROUS GALENETIC BLENDE.

SIR,—Kindly allow me a small space in your paper, in which to reply to some of Mr. Argall's remarks in your last issue on the above subject.

I do not wish for a moment to detract from the value of Mr. Philip Argall's comprehensive and erudite paper "On the East Ovoca Mines," referred to by Prof. Tichborne. But in the light of recent results it is quite clear that his specimen of our Connors blue-stone was not by any means a representative sample of the ore as far as silver is concerned. His analysis showed 6 ozs. per ton. Now, in view of large sales of our bluestone the most exhaustive test and analyses have lately been made of samples taken in the usual way from bulk; and in no single instance has the silver amounted to less than 8.25 ozs. per 20 cwts., the best result obtained being 9.12 ozs.

As to the nomenclature of the ore I am inclined to agree with Mr. Argall in christening it "kilmacovite;" but I hesitate to do so until (as will shortly be the case) it has come more prominently before the notice of the mineralogists, and the smelters of England.

Oreos, May 6.

ARTHUR G. RYDER.

EAST LOVELL.

SIR,—In your valuable Journal of April 23 a letter appeared in relation to the pursuer's treatment of the shareholders who have relinquished their shares in the above mine. I have received several complaints of a like nature, but if shareholders will not unite how is it possible to remedy the present unsatisfactory state of affairs in connection with this ever "calling" mine?

In the Journal of Nov. 15 last a full report appeared of a meeting, convened by me, and held at the "Four Swans" Tavern, Bishopsgate-street, the previous day. United action is all that is requisite, and to this end important proceedings are about to be taken forthwith. Perhaps your correspondent will communicate with me at once.—Great St. Helena, May 7.

E. J. BARTLETT.

COAL MINING IN FRANCE.

Discouraging as is the condition of the coal mining industry in this country, it appears to be much worse in France. Towards the close of last year it was estimated that one-third of the French collieries were idle, and that of the rest one-half were being worked at a loss. Since then prices have fallen still lower, and the consumption has diminished. The output has consequently also further fallen off, and is believed, indeed, not now to exceed one-third of what it was a year ago. So serious a decline implies, of course, an enormous check to the activity of the iron trade and of mechanical industry generally. It implies also great suffering amongst the working miners in France, whose condition even a year ago was far from being prosperous. Nowhere are these employed more than half time, and, of course, large numbers must be thrown out of work altogether. It appears that wages have not been reduced during the past 12 months, the employers having chosen rather to meet the difficulties of their position by restricting the output. Notwithstanding this action on their part stocks are enormous, showing no signs of diminution, and prices continue slowly to decline. The present inactive state of the iron industry in France is further indicated by the great falling off in the import of iron ore and pig iron into the Republic during the first three months of this year when compared with those of the corresponding period in 1884. The following are the figures:—

IMPORTS JANUARY 1 TO MARCH 31.

	1885	1884	Decrease
Iron ore.....Tons	311,807	349,519	37,712
Pig-iron	46,367	61,801	15,434

The decline in the imports of iron ore occurred mainly in those from Algeria, whence the quantity shipped to France seems to be every year diminishing.

Trade Reports.

CORNWALL.

May 7.—We write this week under more hopeful feelings and conditions than for some time past. The statement made with regard to the settlement of the Russian difficulty by arbitration being no mere matter of rumour—though rumour had preceded—but having the highest official authority, has had a remarkable effect in restoring confidence, and directing thoughts and energies back into ordinary business channels. The character of the Budget, too, in its general commercial relations is of a healthy and reassuring nature and has had its share in the tendency to increased confidence. It is quite probable that matters will progress all the more rapidly for the check that they have received, and we shall be very much surprised if the upward tendency thus inaugurated does not culminate in a substantial advance. Those who have had the most faith are likely to have done the best; though we think upon comparison with other forms of speculative investment that home mining enterprise has been less affected in the way of actual reduction of prices by the war preparations than almost anything else. Dulness there has been to a serious extent, and absence of business; but the fall in prices has hardly been equivalent, and the margin of recovery is not therefore so great. Should the clouds roll completely away, as at present seems probable, it will be a fortunate thing in all likelihood for some venture whose fate is now hanging in the balance—for it will give those interested fresh heart.

It is difficult to understand why, at this time of day, there should be any doubt as to the liabilities of shareholders in Cost-book mines. The one fact that has made Limited Liability mines popular with the outside public—more popular, probably, than they ever will be again—unless the words "promotion money" cease to be heard of in future, has been the assumed definiteness of the position of the investor or speculator. His loss has been limited, and unhappily, in the large majority of cases, fixed by the amount of his holding in the share capital.

That in the face of the very heavy and practically unlimited calls made on the shareholders in a good many Cost-book mines this principle has had a certain amount of fascination is not at all to be wondered at. What is cause for wonder, however, is the fact that after all the discussions that have taken place any Cost-book shareholder should have any doubt as to his ability to resign his shares, and as to the way in which it should be done. These remarks are called forth by a complaint made by a shareholder in East Lovell that after resigning his shares in November he is held liable for a call made at the end of February. In the absence of detailed information as to what this adventurer did, and how he did it, no one can pronounce an opinion as to the real merits of his case, though from a clause in his letter it appears doubtful how far the resignation was completed. Would it not be far better in such a case as this for private legal advice to be taken before going to the public?

Why the Dolcoath tin should have fetched 11. a ton above the usual standards when it was sold exclusively to William Harvey and Co., and the Redruth Company; and why the adventurers should lose this 11. bonus, and with it something like 1500l. a year, because about one-fifth of the produce is sold to non-shareholding smelters, seems to me a little difficult to understand. It is generally accepted, however, that the fact is so, and that the denunciations of monopoly with which we were familiar has in this case been productive of direct disadvantage to the adventurers generally. But is there not another way of meeting the present position of affairs? At present there is no competition among the smelters, though Dolcoath tin is always in request. It seems hopeless to expect that anything will be done with the metal market direct. Cannot a formal contract be entered into

for the sale of the produce, say, for six months, if not for 12, based upon the current standards of the day. If the exclusive privilege of possessing Dolcoath tin is of marketable value, it is a pity money is not made of it; and if there is a definite contract there can be no cry of monopoly.

The new number of the Transactions of the Royal Geological Society of Cornwall contains papers by Messrs. H. Fox and A. Somervail on Volcanic Rocks in the Menage District; Mr. R. N. Worth on the Raised Beaches of Plymouth Hoe; Dr. C. Le Neve Foster on a Specimen of Native Gold from Leadville, Colorado; Mr. Frecheville on the Umber Deposits at Ashburton; and Mr. F. M. Millet on Foraminifera from the St. Erth Clay Pits. Mr. Frecheville regards the number as the products of the decomposition of the dolomitic Ashburton limestone. It has been worked now for some 15 years, the output ranging up to nearly 3000 tons.

The anticipations of a learned and practical scientific address at the next meeting of the Devonshire Association, which meets this year at Seaton, from Sir B. Samuelson, M.P., are unfortunately doomed to disappointment. Sir Bernhard has all his time occupied in the inspection of certain works on the Continent on behalf of the Government. His place will be filled by Dr. Weymouth, of Mill Hill School, who will naturally bring into prominence the literary side of the society.

NORTH AND SOUTH STAFFORDSHIRE.

May 7.—No better report is possible of the condition of the coal industry. Short work and unremunerative prices are everywhere complained of. The demand for manufacturing fuel at the Cannock Chase pits is, however, keeping up satisfactorily considering the general depression. Black Country prices are given this week on 'Change as:—Furnace coal, 8s. to 10s.; mill coal, 6s. 6d. to 7s.; forge, 6s.; rough slack, 3s. 6d. to 4s. 6d.; fine, 2s. 6d. Sales of pigs are difficult to make, whether native or Midland sorts are spoken of. Consumption is so limited that none cares just now to buy. Nor will they give out specifications for deliveries under earlier contracts with any vigour. Stocks on makers' banks continue to augment. North Staffordshire common pigs are quoted 41s. 6d. delivered here, Derbyshires 40s. at stations, and Northampton 37s. 6d. upwards. The manufactured iron trade does not exhibit improved symptoms.

At a general meeting of millmen held at Bilston, on Saturday, at which all the South Staffordshire districts were represented, serious complaint was made of the light-weight system of payment which employers are now introducing into the sheet mills. The non-payment of extras for the rolling of long lengths was also complained of. It was resolved that these alterations in the mode of payment were unjustifiable, and that unless employers desisted from further enforcing the charges, the general body of millmen would stand against it. The operative secretary of the wages board was instructed to bring the whole matter before that tribunal for settlement, "otherwise," the meeting further resolved, "the question shall be settled by a general stand of all the mills in the district."

The arbitrators under the Mines Drainage Acts propose that a mines drainage award for the Tipton district should be made for the ensuing 12 months, levying a rate of 3d. per ton on the fire-clay or limestone, and 6d. per ton on the coal and other minerals raised there. A public court will sit shortly, as usual, to hear appeals.

Messrs. Balfour and Co., of Longton, North Staffordshire, have given all their colliers notice of a drop in wages of 10 per cent. The notice expires on the 13th inst., and is due to the low selling price of coal and the depressed state of trade. The majority of the men are in favour of coming out on strike, but it is hoped a wiser course will be come to. The Knutton Manor Mining Company, whose collieries are situated near Newcastle-under-Lyme, have given their operatives 14 days' notice of the ceasing of all contracts, and that a revision of wages must be considered. The workmen under Mr. J. N. Peake, at the Rosemary Colliery, having resumed at the 10 per cent. drop are now on good work by time.

NORTH WALES, SALOP, AND CARDIGAN.

May 7.—Attempts are being made to resuscitate lead mining in Denbighshire and Flintshire; but with royalties reaching as high as one-eighth, and little or no silver, how is it possible for mines to be profitably worked? The sooner the better we look the fact in the face that the mineral owners of this country are driving its mineral industries out of it. In Norway, Sweden, France, and Spain, to go no farther from home, there are no royalties payable, only ordinary taxes, and for the most part the ores are richer. I have just returned from such mines, where the lead ores average 35 ozs. of silver, and the concession is equal to a freehold. I journeyed home in company with the English manager of a well-known mine in Spain, and he informed me that he had been mining successfully for years under the same favourable conditions. How can we compete in this country with such favourable conditions?

The quarrymen of Bethesda have held a mass meeting representing some 4000 men, and they have agreed, in consequence of the flatness of trade, to accept the 10 per cent. reduction proposed by Lord Penrhyn and his agents. This will make their wages about equal to those of the men at the other quarries. A number of men are, however, to be discharged.

Mr. John J. Evans, the working manager of these quarries, has just read a paper before a local scientific society "On the Geology of the Bethesda District." This is a step in the right direction, and contrasts favourably with the old contempt for science which was once so common among men in Mr. Evans's position.

The returns of the Liverpool Corporation up to the 30th of March last show a total expenditure on the new waterworks in North Wales as 1,198,456l. 14s. 8d. The work may be considered as about one-third accomplished. Mr. Thomas Hawksley, C.E., of Great George-street, Westminster, the engineer-in-chief of the works, persists in his resignation, in consequence of unsatisfactory arrangements in connection with assistant engineers, which is unfortunate for the works.

The Coal and Iron Trades are rather dull, although for the best quality of coal the demand is fair. An explosion of gas took place last week at the colliery of the New British Iron Company, near Ruabon, by which two men were rather seriously hurt. At the adjourned inquest on the death of Joseph Davies, who was killed the week before, at Brynkinalt Colliery, the jury censured the engine-driver. On Tuesday, the 28th ult., Jonathan Jones was killed at the Hafod Colliery, near Ruabon, by a fall of roof. Few of the collieries are, just at present working full time.

The attempt to increase the import trade of the Port of Aberdovey is not very successful. The balance-sheet of the Aberdovey Import and Export Company, just issued, shows a net balance in favour of the company, for the year ending 31st of March of 129l. 7s. 2d. only. The local railways show a slight increase in their returns, and most of the local bills before Parliament seem approaching a successful issue.

Most of the trades connected with mineral industries are fairly prosperous, and there is not now a large number of men without employment.

SOUTH WALES.

May 7.—The ports of Cardiff and Newport are very active in the shipment of coal to the East, as much as 11,000 tons were shipped from Newport alone, while large quantities are being sent to Egypt, Smyrna, and the Mediterranean. Cardiff shipped a larger quantity last week by 5000 tons than in any previous week in the history of the port, having sent away 166,653 tons foreign and about 20,000 coastwise, with 3194 tons of patent fuel. Some 20,000 tons were also taken for bunkering purposes. Newport shares in the prosperity of the sister port, having shipped 33,765 tons foreign and 17,762 coastwise; Swansea suffered from a want of tonnage, and therefore its record only shows 15,671 tons foreign and about 11,000 coastwise, with 4771 tons patent fuel. With all this activity there is no rise in prices, although they may be declared decidedly firm. Small steam coal is in good demand, but patent fuel is in less request.

The Graigola-Merthyr Colliery Company has been registered, with a capital of 180,000l., to take over all or part of the business, property, and liabilities of the firm of Corry, Yeo, and Co., of Swansea, and of the Compagnie Houillière de Graigola-Merthyr, and to carry on the business of colliery-owners and patent fuel manufacturers generally.

In the Maes-y-cwmmer district the house coal trade is very dull. At Gwerna, Pengam, and Bargoed men are only working three days per week. On the other hand, at the chemical works the men are working full time, making charcoal for the manufacture of gunpowder.

A good amount of iron was sent away from Newport last week, including 2088 tons to Port Alfred, 1000 tons to Montreal, and 237 to Marberg; Cardiff only sent away 100 tons. Iron ore arrived at Cardiff from Bilbao to the extent of 6054 tons, and 1698 from other places; Newport received 8203 tons from Bilbao and 3500 from other places. This article is rising in price, in consequence of heavier freight charges.

Dowlais is active in the make of steel sleepers, and the Rhymney Works show signs of increased activity.

Tin-plates are very low in price, 13s. 3d. IC being a common quotation. Some brands have been sold even 3d. lower. Over-production is the cause of this bad state of things.

DERBYSHIRE AND YORKSHIRE.

May 7.—The coal miners of Derbyshire have not worked so well of late as was expected they would, seeing that so many collieries in the West Riding are standing. Prices, too, instead of continuing to go up, have actually receded, especially for house coal, whilst the requirements of the gas companies have declined in the same ratio as is usual at this time of year. The business done with the Metropolis has not improved, and merchants have purchased on better terms than was the case a month ago, for the supplies have been in excess of the demand. A large number of loaded wagons have stood for days at the sidings, and seeing that this involves demurrage, and is calculated to keep pits standing for want of trucks, merchants have had the opportunity of buying what they required on favourable terms. In steam coal, however, some improvement has taken place, for the Derbyshire colliery-owners have been called upon to supply some works that, until recently, obtained what they required from the South Yorkshire pits. The Baltic trade may be said to have commenced for the season, but the collieries that have in the past sent most extensively to the Humber are now closed, so that it is not likely that much will be done with Hull and Grimsby for some little time at least, for there are scarcely any of the Derbyshire collieries that can send direct by railway to either of those ports. Shireoaks, however, will be placed in an exceptionally favourable state, and no doubt all the coal that can be raised at that place could find an outlet at Hull. But there is every reason to believe that another week or two will see a marked change in the state of affairs in the northern portion of the great Midland coal field, for in that time it is expected most of the collieries in the West Riding, where the men are now on strike, will be at work. Denaby Main, which sends more coal to Hull than any other colliery, in all probability will be working in the course of a few days, and will, of course, commence by sending largely to Hull at once. The men at that place have had a long season of idleness, as well as of privation, and as they are now only receiving 1s. each to maintain their wives and families, they are not likely to require much persuasion to resume work. Should they, however, determine to make a still further stand, there are plenty of men willing to take their places provided they are protected from intimidation and violence. At the other collieries in the same district there is every reason to believe that the majority of the men recently employed at them would gladly resume work, but are held back through fear of those who prefer idleness at any time to work, and who, having no families, can manage to live.

As regards the Iron Trade of Derbyshire it is anything but good, and whilst the demand for pig is still but moderate prices are unremuneratively low. The foundries are not doing so well all round as might be expected for the time of year, seeing May has generally found them very busy, especially in pipes, for which some of the works have long been noted. At one establishment, however, they appear to be doing well in various kinds of works, including steel bridges for some of our colonies, railway girders and pillars. In malleable iron castings of a light and ornamental character a steady output has gone on at the works for some time, although there is plenty of room for improvement. The leading forges have also done fairly well of late in various kinds of rolled iron. In the South Yorkshire districts matters are looking rather better, for Messrs. Newton, Chambers, and Co., have put their two furnaces in blast, and are likely to carry on as usual at their foundries, which are well known for the production of pipes and all kinds of gas material, as well as ornamental stoves, ranges, and sanitary castings. A considerable number of their colliers are at work, having been about the first to accept the reduction of wages as proposed, and in so doing have done well. Whilst many thousands have been in a half-starved condition, the blast furnaces and rolling mills at Elsecar and Milton are still standing idle, and it is to be feared are likely to continue so, although no doubt Earl Fitzwilliam would be most liberal to a likely tenant, and grant a lease on favourable terms. The works were very successful whilst in the hands of the Messrs. Dawes, and more recently in those of Mr. G. Dawes, who only gave them up owing to increasing age and a desire to seek repose after many years' untiring devotion to business, and that of a successful character. The works are close to several collieries where there is coal suitable for smelting, and which would be provided by Earl Fitzwilliam, whilst there is direct communication by railway with the Lincolnshire ironstone field, from which the furnaces were supplied for a great many years—Mr. G. Dawes, in fact, having been about the first ironmaster that smelted it.

The expectation and preparations that were made for a war with Russia has done a rather good turn for some of the works in Sheffield, as have the orders given out by the Government for the construction of several war vessels. Fresh orders have been given out for composite armour-plates, so that the two companies making them—Brown's and Cammell's—are likely to have a long and busy season in connection with them. Steel-plates have also come into greater demand, especially for steam vessels

for the navy, for the Admiralty has given over, it would appear, giving out contracts or specifications for iron-built ships. The closing of so many collieries in the West Riding has affected the manufacture of picks, wedges, and other kinds of mining tools, and there is not quite so much doing in steel wheels for cofts and trucks. In Bessemer steel business has continued steady, a fair quantity being taken for the rail mills, as well as for railway forgings of different kinds. Garden tools and light hand machines of various kinds are now being more extensively produced, and the same may be said with respect to the agricultural tools and implements. The cutlery and tool branches do not appear to have improved, and trade with America, as well as at home, has continued very quiet. The activity at the Government yards as well as at those of our leading shipbuilders, has led to a considerable increase in the demand for files. Heavy tools driven by power are likely to be in better request, whilst there is a steady trade being done in railway wagons.

LANCASHIRE.

May 7.—To some extent confidence has been restored to the market by the more peaceful prospects of the last few days; but there has been no material increase of business coming forward, except that in some descriptions of finished iron there is rather more doing. Pig-iron still shows no sign of recovery from the extreme depression which has prevailed for some time past, and although the generally quoted rates for good local and district brands remain at 40s. to 41s., less 2½, delivered equal to Manchester, at these figures makers are practically out of the market in face of the keen competition of cheap brands, which are offered at about 38s. 6d. to 39s., less 2½, delivered here. Hematites, notwithstanding the increased activity in some branches of the steel trade, continue very low in price, good brands of foundry being obtained at about 51s. 6d. to 52s., less 2½, delivered here. A moderate business is reported in finished iron, and with the uncertainty which prevails as to the future, makers in many cases are declining to quote beyond the next two months at current rates, but there is still an eagerness to secure present business, which is an indication that manufacturers are not very plentifully supplied with orders, and for prompt specifications quite as low prices as ever are being taken. For good qualities of Lancashire and North Staffordshire bars, delivered here, 51. 7s. 6d. is, in most cases, held to as the minimum quoted basis, but anything like orders for immediate delivery could, in many instances, be placed at slightly under this figure. Hoops average 51. 17s. 6d., and sheets 61. 17s. 6d. to 71. per ton.

The condition of the engineering trades remains without material alteration; locomotive and railway-carriage builders are kept busy, and some of the tool makers are getting moderate orders from abroad, including heavy tools for Russian Government dockyards. Generally, however, the home trade is quiet, and the tendency is still towards lessening activity.

In the Coal Trade there is a quietening down with collieries getting on to short time, and in the Manchester district the month has opened with a general reduction in the delivered, pit, and wharf prices of 10d. per ton in house coal, and 5d. per ton in other classes of fuel, which is accompanied by a reduction in wages equal to about 10 per cent. This action on the part of the Manchester firms has been somewhat unexpected, the general anticipation being that with the continued strike in Yorkshire and the approaching Whitweek stoppages of the pits in this district prices would at least be maintained for the present. The Manchester colliery proprietors complain that they have been undersold, that in many cases they are not able to keep their pits going more than four days, and they have accordingly attempted to protect themselves by a reduction in price. In the West Lancashire district no formal reduction of list rates has been actually announced, but the slight advance attempted last month has been practically abandoned, and buyers are holding back orders in the expectation that prices will have to give way. At the pit mouth prices average about 8s. 3d. to 8s. 6d. for best coals, 7s. to 7s. 6d. seconds, 5s. 6d. to 6s. common, 4s. 6d. to 5s. burgy, and from 2s. 9d. and 3s. up to 4s. 3d. for slack, according to quality.

The shipping trade continues dull, with medium qualities of steam coal averaging 6s. 9d., and better sorts 7s. per ton, delivered at the High Level Liverpool or the Garston Docks.

TYNE AND WEAR.

May 7.—The Steam Coal Trade continues very firm, and in some cases 10s. per ton has been got for prompt shipment, the best works north of the Tyne are consequently well employed, and there is a good prospect for this coal and all other kinds of coal consumed on steamers. Nuts and smith coals are in good demand for export. The shipments of bunker coals on the Tyne, Wear, and at Hartlepool continue large. At Blythe the shipments of steam coals continue to increase, and it is now evident that this port will occupy its proper position in future as the natural outlet for a great portion of the Northumberland steam coal. In Durham there is not much change in the coal and coke trades; the house coal trade, however, maintains its late position, and there is not much change in the position of the gas and coke coal trades. There is still a fair demand for these kinds of coal. There is a fair demand for coke at the inland ironworks, and shipments are also on a good scale. The report of the accountants appointed under the sliding-scale in the Durham coal trade have made their report for the three months ending in March, 1885, which show that the net average selling price of coal for that period was 4s. 601d. per ton. The rate of wages will therefore be reduced 14 per cent., calculated upon the standard wages of November, 1879. The result of the negotiations between Mr. Ford, the owner of the Thornley Collieries, and the Weardale Iron and Coal Company, is that an agreement has been arrived at, and the latter company has purchased those extensive and important works. They will take possession of them immediately, but the working of the collieries will not be resumed for some time.

There is no improvement whatever in the condition of the Iron Trade. Only once for a short period—in 1879, was pig metal of so low a value as at present, when No. 3 was quoted at 32s. 6d. What effect the actual outbreak of hostilities would produce is matter for speculation, and various opinions are held on this point. The late improved demand for manufactured iron has been maintained, and more work is done generally. There are also further orders reported for engineering and bridge work. Foundries are also, as a rule, fairly employed. The steel trade is in a healthy and promising condition, and plates and angles are firmer in price, varying from 61. 15s. to 71. 2s. 6d. There is no change in the value of finished iron. The shipments for April were better than in March, but they are still low. There was a large decrease for foreign, but some increase coast-wise.

The war preparations have caused a considerable amount of excitement in the commercial world here; the ships taken up by the Government, and the new ships ordered has had a good effect. Freight's have improved very considerably, as there is increased employment for shipping of all classes, and, of course, numbers of steam-ships which had been laid up for a long period have been got to work. As noticed above the iron trade has

been further depressed by the fear of war, and some other branches of trade have suffered in a similar manner. The fire-brick trade and the chemical trade have suffered to a considerable extent from this cause.

The adjourned enquiry into the cause of the explosion at Usworth Colliery was resumed on Friday. The owners and men were represented by the same gentlemen as formerly—Mr. Edge for the owners, and Mr. Jones for the miners. The Hon. A. Lyttelton represented the Home Office. The Government Inspectors of Mines were also present. The first witness examined on behalf of the miners said that the lamp of one of the Browns who fired the shot at the cross-cut on the day of the explosion was found unlocked near the body of Brown. It was the rule for shot-firers to relock their lamps immediately after firing a shot, and Brown's lamp having been found unlocked was regarded as a significant fact, as being the cause of the explosion. At the request of the jury evidence was called as to the state of the air returns in the west pit previous to the 2nd March. In the opinion of George Nelson, wasteman, the returns were in a satisfactory state, and he had never found foul air in the main returns. Matthew Hill said the least part of the air-ways was in the middle north, where the size was about 5 ft. by 5 ft., but he had found gas in the returns in the south side. The bottom part of a lamp belonging to one of the Browns was found 29 yards inside of the station where they worked. Other lamps had been injured, but none so much as Brown's lamp. Mr. Patterson, miners' agent, said that, in his opinion, the blast did not come from the low north, and he thought that the stone brought down by the shot had not been moved by the Browns, but was just as the shot had thrown them. No stone had been moved after the firing of the shot. From this point the blast had gone outwards and also inwards from the shot. In his opinion the shot had fired the gas close to the return doors and the cross-cut; 2½ per cent. of gas with air mixed to a certain extent with coal dust would cause an explosion under the circumstances, and the men would not see the danger because there was 14 per cent. less gas than would show upon the lamp. He believed that the return was charged with gas, and that part of this gas escaped through the stoppings mixed with the dusty air, and the two combined exploded on the firing of the shot. Mr. Wilson, miners' agent, and some of the miners agreed with the opinions of Mr. Patterson.

On Saturday further evidence was taken. Evidence was given that all the lamps found in the pit were locked with the exception of Brown's lamp.

Mr. Thomas Robson, mining engineer, said the appearance of the loose stones where the shot was fired led him to believe that the Browns had fired the shot some time before the explosion, and that they were busy clearing away the fallen debris when they were killed by the explosion. He thought that the explosion occurred somewhere in the low north at some distance from the point where the Browns were working. A fall in the goaf might liberate gas, and this most likely caused the explosion. Coal dust, in his opinion, was not sufficient to cause an explosion without the presence of gas. He thought that shot-firing was safe at Usworth if proper care were taken, and the cross-cut was a safe place to fire a shot. There was nothing in the mine that he could object to. Mr. G. Baker Forster corroborated the evidence of Mr. Robson and Mr. John Daglish, and several other engineers also agreed with Mr. Robson's views. Mr. Atkinson, Government Inspector, had examined the mine, and he read a report. In his opinion, gas could not have accumulated in the cross-cut. He believed that the Browns fired a shot, and that the shot caused the explosion. He thought that the shot was over-charged, and that the concussion shook the dust up, and the flame from the shot ignited the dust, that would cause expansion and rapid movement of the air, dislodging more dust, and the force of the explosion increased until it reached its maximum and found an outlet. The explosion had traversed those portions of the pit over which coals were led, and where there was most dust, missing the portions where dust was not so largely gathered. A colliery manager not aware of the danger arising from the presence of coal dust would, so far as gas was concerned, consider the cross-cut a safe place in which to fire a shot.

The enquiry was concluded on Monday. The coroner summed up to the jury in a long and able address. The jury retired, and were absent three hours. They found that the cause of death was as proved by Dr. Wilson, in each case resulting from an explosion of gas and coal dust. That there was no evidence to show that the pit was not in a safe and proper condition as far as could be known to the agents; that the explosion took place in Brown's place; that the explosive mixture was coal-dust with a small percentage of gas, and that the explosion was the direct consequence of the shot fired at Brown's place; that the presence of gas or coal-dust in sufficient quantity to cause an explosion was not known prior to the explosion to any of the agents; that no one was culpable; that the explosion was the result of accident. The jury left the question of shot-firing to the proper authorities.

COMMERCIAL FAILURES.

The number of failures in England and Wales gazetted during the week ending Saturday, May 2, was 80. The number in the corresponding week of last year was 60, showing an increase of 20, being a net increase in 1885, to date, of 43.

The failures were distributed amongst the following trades, and, for comparison, we give the number in each in the corresponding weeks in 1883 and 1884:—

	1885.	1884.	1883.
Building trades.....	4	6	15
Chemists and druggists.....	—	1	3
Coal and mining trades.....	1	—	1
Corn, cattle, and seed trades.....	—	1	3
Drapery, silk, and woollen trades.....	6	2	18
Earthenware trades.....	—	—	—
Farmers.....	6	2	7
Furniture and upholstery trades.....	2	—	6
Grocery and provision trades.....	14	15	45
Hardware and metal trades.....	3	1	10
Iron and steel trades.....	5	3	6
Jewellery and fancy trades.....	4	2	2
Leather and coach trades.....	3	3	15
Merchants, brokers, and agents.....	9	9	21
Printing and stationery trades.....	2	1	1
Wine, spirit, and beer trades.....	14	8	26
Miscellaneous.....	7	6	29
Totals for England and Wales.....	80	60	208
Scotland.....	21	23	15
Ireland.....	1	11	—
Totals for United Kingdom.....	102	94	223

The number of Bills of Sale published in England and Wales for the week ending May 2 was 272. The number in the corresponding week of last year was 227, showing an increase of 45, being a net increase in 1885, to date, of 82. The number published in Ireland for the same week was 15. The number in the corresponding week of last year was 12, showing an increase of 3, being a net decrease in 1885, to date, of 2.—*Kemp's Mercantile Gazette.*

On Monday, at the Willenhall Police Court, John Bough, miner, of Bloxwich, was sentenced to three weeks' hard labour, without the option of a fine, for using a naked light in a dangerous part of a mine worked at Edington by the Norton Cannock Colliery Company.

Meetings of Public Companies.

THE TRANSVAAL GOLD EXPLORATION AND LAND COMPANY (LIMITED).

An extraordinary general meeting of shareholders was held at the Cannon-street Hotel on Tuesday—Mr. HERBERT MAGNIAC in the chair—for the purpose of confirming the special resolutions passed at the last meeting, held on April 17, authorising the liquidation of the present company, and the formation of a new company with the same name as the present company.

Mr. C. H. BURNAND (the secretary) read the notice calling the meeting.

The CHAIRMAN said—Gentlemen, I think I need not detain you long to-day, as we are here for the specific purpose of confirming the resolutions passed at the last meeting to place the affairs of the company in the hands of the proposed liquidators, Messrs. Nichols and Monkhouse, and it is not my province to initiate or provoke any discussion upon the future policy of the company. I have heard that some of the shareholders are of opinion that they could suggest a better scheme for the reorganisation of the company than that which we have laid before you. I need not point out to you that it is perfectly competent for any shareholder holding such opinion to place any scheme which he may have before the liquidators, who have ample powers conferred upon them by the resolutions we are about to confirm. The foregoing being a brief explanation of the object of our meeting, and the scope of our powers to-day being so limited, I think I need not waste any more of your time, but will now move that the resolutions be confirmed:—

1.—That the company be wound-up voluntarily, and that Charles Lee Nichols, of Queen Victoria-street, E.C., be and he is hereby appointed liquidator for the purposes of such winding-up.

2.—That the liquidator be and he is hereby authorised to consent to the registration of a new company with the same name as this company, and with a capital of 300,000l., divided into 300,000 shares of 1l. each, and a Memorandum and Articles of Association in the form in that behalf already prepared with the privity and approval of this company.

3.—That the said liquidator be and he is hereby authorised to enter into an agreement under the 161st section of the Companies Act, 1862, with the new company (when incorporated) for the sale and transfer to such company of the business and assets of this company upon the terms set forth in the draft agreement submitted to the meeting subject to such modification thereof as the said liquidator may think fit.

The Chairman then went on to say:—At the last meeting it was decided that the shares were to be issued with 18s. paid up, and I believe that was carried with but few exceptions, and certainly carried by a show of hands. Since that time some of the shareholders, holding large numbers of shares, have explained to us that they would infinitely prefer that the shares were issued with 19s. paid up, and only a liability of 1s. per share. We should prefer taking the feeling of the meeting on this; and, although the liquidators might I believe settle the question, still it would leave a responsibility upon them which they would hardly care to take, and I think their hands would be strengthened if we could decide the question before we leave this room.

Mr. WILLIAMS said he had to commend the committee for the conciliatory way in which they had met the point which had been referred to by the Chairman. He expressed his thanks to Mr. Farquhar for the mainly defence which, at the last meeting, that gentleman had made of the committee. He considered the shareholders owed a debt of gratitude to the committee for the way in which they had conducted the affairs of the company in a crisis which, in ordinary circumstances, would have led to liquidation.

Mr. LEE said he thought it was rather beyond the province of the meeting to determine whether the amount uncalled should be 1s. or 2s.; but the meeting could express its wishes and feelings in the matter. At the last meeting, which was much more numerously attended than this, the decision was almost ten to one in favour of allowing 2s. to remain uncalled, and the present proposition of 1s. per share was a serious one for the shareholders to be left to decide. For his own part he had no feeling one way or the other. With regard to whether it should be 1s. or 2s. per share, in order to decide that point fairly it was well to consider what the possible future of the company would be. With 1s. per share they would have a capital of 12,500l.; with 2s. per share they would have 12,500l. more. If this was to be carried on as a serious concern, they could not get on without money. It seemed to him that if they tied the hands of the company to-day, and said they would only pay 1s., they would be paralysing the future chances of the company. They could not pass any resolution to-day, they could only express an opinion. He seconded the motion which had been made by the Chairman.

Mr. FARQUHAR said that, in considering this matter of what the amount should be, they had to take into account what the large shareholders would do—men holding 10,000 or 15,000 shares; and from the opinion which he had been enabled to gather from those gentlemen he believed their opinion was that 1s. per share would be sufficient. For his own part he did not care whether it was 1s. or 2s. per share, and he believed that if the thing were to go through they must make it 1s., or the large shareholders would not come in.

Mr. FASS said he thought the three new directors to be elected on the board should be elected by the general body of shareholders. He considered the present scheme was a scheme in the interests of the debenture-holders, and he suggested that steps should be taken to free the property from the debenture-holders. If they could not do that the company had better go into liquidation. (No.) Even if they adopted this scheme they would have to appeal to the debenture-holders again, or they would take the property from the shareholders. If the property were taken from the debenture-holders then the shareholders might form a syndicate, and form a new company.

Mr. ESCOMBE, referring to the debentures, said that so long as the company paid the interest of 8 per cent. and 10 per cent. annually for sinking fund the debenture-holders had no claim upon the property.

Mr. ALDER approved of the suggestion that a compromise should be arranged with the debenture-holders; at the same time, he should not make this a condition of subscribing to the new company. At the last meeting he supported the assessment of the new shares. He held 1400 shares, which cost him as much as 5000 or 6000 shares had cost some shareholders. He supported the assessment of 2s. per share. He certainly thought the three new directors ought to be elected by the shareholders.

The SOLICITOR said he might at once explain that, under the agreement, three shareholders other than the directors would sign the new Articles of Association. The Articles of Association were purposely drawn almost upon the same lines as the old Articles. One of the clauses was to the effect that no call should be made without the sanction of a general meeting. The company had no creditors but the debenture-holders.

Mr. MARKS, in reply to an observation by a SHAREHOLDER, as regarded whether the assessment should be 1s. or 2s. per share, pointed out that at the last meeting, which was very largely attended, it was agreed that the assessment should be 2s. per share, and said he thought it would be hardly fair to absent shareholders for the present comparatively small meeting to undo what the previous meeting had decided to do. (Hear, hear.) It was not intended to go into any serious expenditure, the plan being to let out the property to diggers, which should have been done at the start. There would be a source of income from that quarter. He was also informed that the Balkis Company had made an offer to use this company's mill on liberal terms to this company.

Mr. GUELLALLA said he objected to the new shares being assessed at 2s. per share. If in the next two years the company were wound up the creditors would make a call, and if the shareholders now decided that the assessment should be only 1s. per share, no greater amount could be afterwards called up.

Mr. TAYLOR endorsed the view of Mr. Guedalla, and said he believed that if the assessment were made 1s. the large shareholders would more readily come in and support the company.

Mr. FARQUHAR: I personally do not care whether it is 1s. or 2s. We want the shareholders to do what they wish. My feeling is that it will go through better with 1s. than with 2s.

After some further discussion the resolution proposed by the Chairman for the confirmation of the resolutions given above was put and carried, 30 voting in favour of it and four against it.

The following resolution was then submitted to the shareholders as an ordinary resolution, and carried:—"That Mr. George Benson Monkhous, of St. Swin's-lane, E.C., be and he is hereby appointed joint liquidator with Mr. Charles Lee Nichols for the purposes of the winding-up."

After some consultation among the shareholders, the following three gentlemen were elected to sign the Articles of Association of the new company—Mr. Joseph Guedalla, Mr. Samuel Crowder, and Mr. William Farmer.

The proceedings closed with a vote of thanks to the Chairman and committee.

THE NEW CHILE GOLD MINING COMPANY (LIMITED).

The ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday.

Mr. HUGH WATT presiding.

The notice calling the meeting having been read,

The CHAIRMAN said—Gentlemen, you have had the circular which we issued presenting a succinct account of the proceedings since the last meeting, and I think, perhaps, if I go at once to the matters which seem to present the most serious aspect in connection with this company it will be preferable. I will read you a telegram received from the new manager, Mr. James, shortly after his arrival at the mine:—"Rochefort refusing the control has declared the company in liquidation. Court has appointed him liquidator. Letter by mail." You can naturally understand, gentlemen, when we received that telegram the board were very much upset about it. The conclusion we arrived at was that Mr. Rochefort had acted under his power of attorney conferred by the old company. Of course, the interval before Mr. James's arrival, the registration of this company here, and the forwarding of the documents to Venezuela, had been too short to admit of anything beyond the preliminaries necessary to obtain the registration of the new company in Venezuela. You may not also be aware that according to the law of Venezuela a liquidation in this country does not imply a liquidation there, consequently Mr. Rochefort's position as attorney for the old company seemed to afford him a *locus standi* for any course of procedure he might think proper to adopt. The course which the board had pursued in sending out documents to Venezuela was as follows:—The deed appointing Mr. James—the power of attorney sanctioning him—was executed by the liquidator of the old company, and by the board of the new company, so as to give him a standing in connection with both the old and new companies. We also took the precaution of forwarding further documentary evidence, which it was impossible to be prepared in time to go with him, by Mr. Aikman, who left by subsequent steamer. Mr. Aikman took out the documents, which no doubt had been a service to Mr. James in the steps he has taken. We further took the precaution of having affidavits prepared by Mr. Brown with regard to the liquidation of the company, and explaining the steps which had been taken under the liquidation. The liquidator called upon the old board to execute a power of revocation of the powers granted to Mr. Rochefort, he having previously, by letter, intimated that he would recognise no other authority than those who appointed him. Mr. Rochefort being an Englishman is of course well aware of English law, and that the liquidation of a company destroys or rather supersedes all powers possessed by a board of directors. But on looking at the statute we find that a liquidator could call upon a default board to execute any act qualified to further the interests of the company in liquidation. The liquidator consequently called upon the old board to execute a revocation of the power granted to Mr. Rochefort, which was duly executed by two of the members of the board. That was sent out by the first steamer, but I am glad to say that those steps which were taken were rendered unnecessary. On the 9th of April we received a telegram from the agents at Bolivar:—"Grillet leaves 1st April for Chile to settle matters," and on the 17th of April we received the following telegram from Mr. James:—"Court confirms the manager, with immediate possession." Now, gentlemen, I intend to read you some very extensive extracts from Mr. James's communications on this and other matters; but prior to doing so it may seem somewhat strange to some of you that the board should have decided to supersede Mr. Rochefort, I have gone over a correspondence of something like 500 foolscap pages of his, to get at the facts of the case and the grounds upon which the board based their opinion as to the absolute necessity for the supersession of Mr. Rochefort at the earliest possible moment. I have summarised this under various heads. (Reading some.) I am happy to say I have secured the services of one of the best underground engineers as mining captain, Capt. William Jenkins, who left on Saturday last on three days' notice, and who will take the place of Pearce. It was fortunate for us we sent out Aikman, whose knowledge of the old company's affairs must be of service to Mr. James. You see what Mr. Rochefort said as to the papers and documents being taken away; I believe that is to a great extent correct, and some of Mr. Rochefort's acts, such as compromising some of the old debts, is partly acceptable, but nothing could excuse him in connection with other matters. He has written so repeatedly on the subject, and as a shareholder he, of course, received all circulars which were sent out from time to time by the old board, by the committee, and latterly by the new board. I have been asked by a shareholder to give a little statement of the cash received to date with the two calls made, and I may say before speaking of the second call that it was a source of regret to the board to be under the necessity of making that call. From the statement I read showing that Mr. Rochefort wrote he expected to wipe off the remaining debts within a month or two, it is clear that the statements I made to you last were very much within his statements to us. I expected we should have to pay a small sum for debts in Venezuela, but certainly never expected the drafts which have been made upon us subsequent to the telegrams of the reconstruction of the company received by him. The cash received from calls to date has amounted to about 38,000*l.*; the disbursements are as follows:—For old debts in Venezuela we have paid about 19,000*l.*; for debts of the old company here about 20,000*l.*, including the legal and other expenses to date. Goods shipped amount to 7500*l.*—that is, engines we have dispatched to the mine, things which were necessary, boarding house stores, mining requisites, small tools, and everything we could possibly think of. We went over the whole of the indent of the company from the commencement, as far as the papers were handed to us, and we have sent out to the mine everything that would reduce the expenses to the very lowest minimum. Liquidation expenses amounted to 750*l.*; administration of the new company 1250*l.*, and at bank there is 7000*l.*, which will leave a balance still to come in on the second call of something like 12,000*l.* I do not know that I have much else to say. There are three resolutions which stand on the paper. With regard to the first one I will call on Mr. Brown to explain it if you wish, it is entirely of a technical character. It seems the resolutions come to at the last meeting of shareholders were of such character as to preclude the new board having the power to complete the debenture transfer from the old to the new company. By the technical alterations proposed we will be able to make a transference of the debentures to the new company. It will be beneficial to the debenture-holders inasmuch as by its means they will obtain their lien in a sort of way with the unpaid capital of the company. Under the old *regime* they had nothing to fall back upon, so that the change is in the interest of the debentures, and also of the new company, and in fact is essential. I now beg to move—"That Article 43 be amended by striking out the words 'for the purpose' in the fifth line, by inserting between the word 'or' and the word 'debentures' in the sixth line the words 'secured or represented by,' by striking out the word 'and' in the ninth line, and inserting in lieu thereof the words 'or such debentures;' by striking out the words 'created therefor' in the ninth line, and inserting in lieu thereof the words 'or other securities created;' and by adding at the

end of the article the words 'or for the purpose of issue by way of security for such existing charges.'"

Mr. HIGGINS seconded the motion, which was carried *nem. con.*

The CHAIRMAN moved the second resolution—"That the board be and they are hereby authorised to enter into an agreement with the 'Compagnie Minière Française de la Eureka,' for the purpose of acquiring certain mining properties and concessions belonging to the said company upon the terms of a certain preliminary agreement which has been provisionally signed by George Montgomery on behalf of the Compagnie Minière Française de la Eureka and by Hugh Watt on behalf of this company, and that the said agreement be and the same is hereby approved and ratified, and that the board be and are hereby authorised to carry such agreement into effect, either with or without modification, as the board in their discretion may deem expedient." He said a plan had been prepared so as to give the shareholders an idea of the position of their property in its relation to other properties. They would see that the Chile property was entirely surrounded by the lands of the Potosi Company and with regard to the wood supply, that the Eureka property was almost surrounded by the Chile lands. The directors had endeavoured to come to an arrangement with the Potosi Company to get a supply of wood, but had been met in a hostile way. The manager of that company, it was stated, had been trying to gain information as to the levels, position of the mines, and the prospects of the Chile property in a not very honourable way. Well, as they were unable to get a wood supply from the Potosi Company, he thought they could not do better than entertain the proposition for the purchase of the Eureka Company. By making this purchase they would get, in addition to wood, a mill of 20 stamps, fully equipped, and machinery and boilers in good condition. The Eureka Company started with an inadequate capital, and when they got to the length of their tether they attempted a scheme of reconstruction, but failed. He then came in, and agreed to purchase the property for shares of the Chile Company. The Chile property had suffered from an insufficiency of water, caused partly by droughts and partly by the bad state of the pipes from the Aguaya river, which ran at a distance of about 2 miles, but they had taken steps to increase the output, and had so far repaired the water-way from the Aguaya to the Chile property that they need not fear anything as far as the pipes were concerned. During the last six months the board had overcome great difficulties, and he now looked upon the Chile as a good investing property. It was in a far better position in every respect than it was five months ago, and although the output of gold might not be all they wished they had good prospects, for they had a valuable officer in Capt. Jennings, and would be fortunate if they got the gentleman he had in view as amalgamator. There was gold in the Eureka Mine, but it was not the intention of the board to deal with it as a mining property. They had been considering the advisability of increasing the Chile mill to 90 stamps, an opportunity for doing which was afforded by their getting the Eureka 20-stamp mill. He was convinced that within a few months the Chile, if fairly treated, would be a dividend-paying property. It seemed to him that for some time back up to the last few months this property had been worked rather with a view to personal interests than to the interests of the general body of shareholders. (Hear, hear.) He trusted this resolution would be carried unanimously, for they must have wood, and he did not know where they could get it otherwise than from the Eureka. (Applause.)

A SHAREHOLDER observed that he wished to know how the board arrived at their estimate as to the value of the woods?

The CHAIRMAN said he was glad the question had been asked, because he had to state, in reply, that the place was thickly covered with trees. He had obtained information from gentlemen in Paris who were not interested in the Eureka property, but were well acquainted with it, that the land was densely covered with virgin wood, besides they were getting the wood for nothing, as the mill and plant were of much greater value than the present price of the shares to be given as purchase money.

A SHAREHOLDER: How large?—The CHAIRMAN: About 400 acres. Mr. Nicholson suggested the Eureka property to him, stating that the wood was splendid, which Rochefort endorsed as per letter I read to you, and that there was a good road from that to the Chile property. The board had been at great pains to procure reliable information on the subject of the wood supply, and they estimated that it would last about 10 years, although, of course, they could not make an exact calculation.

Mr. MARINO, agent for the vendors, remarked that he was sorry he had information which differed from that given them by the Chairman. The Eureka Company was an old one, and the machinery was old, having been worked many years. He was also told that there was not sufficient wood to last any great length of time. He did not consider that the information which the Chairman had given them from French people could be depended upon, and he should vote against the purchase of the wood unless they could get it on more reasonable terms.

Mr. JOHN HARVEY expressed the opinion that the new board had chosen to quarrel with everyone. (Oh!)

A SHAREHOLDER said his impression was that the observation as to quarrelling would apply to the old board rather than the new one.

The CHAIRMAN stated that Mr. Harvey's remarks had no foundation in fact. (Applause.) If Mr. Marino and Mr. Harvey could find them wood on better terms the directors would be glad of their co-operation. (Hear, hear.) They were met for a practical purpose; they were met to carry on the Chile Mining Company, and make it a success. He had no doubt that they could do so. He was, if not the largest, one of the largest shareholders, and he represented friends to the extent of 100,000 or 150,000 shares. (Applause.) He said the purchase of the Eureka property was an honest purchase, and if the shareholders did not choose to take it he could make more of it. He was glad to give every information, for the board had nothing to conceal. If either Mr. Marino or any other gentleman had a counter scheme to propose the board would be glad to consider it, but they must have wood lands. They had approached the Potosi Company in every way, but that company would not listen to their overtures. It was the duty of the board to tell the shareholders that unless they got wood lands the consequences would be disastrous. He might say that the ship which took out their machinery had made a very quick passage. He hoped Mr. Marino would not oppose the resolution, because the information he had given them as to the Eureka property he had obtained from gentlemen of position, who would not be likely to risk their reputation by making statements which were false. (Applause.)

Mr. MARINO remarked that he still thought the Eureka property might be got on better terms. (Oh!)

The CHAIRMAN said he was anxious that the vote for the resolution should be unanimous, because it would have a better effect. (Hear, hear.) He begged to move that the second resolution be adopted.

Mr. SLADE seconded the motion, which was carried with four dissentients.

The CHAIRMAN, in moving the third resolution—"That the following Article do form part of the Articles of Association of the company—that the capital of the company be increased by the sum of 100,000*l.* in 100,000 shares of 1*l.* each, such shares to rank *pari passu* with the present share capital of the company, and that the board of the company be, and they are hereby empowered to issue such shares in every respect as if such shares had formed part of the original capital of the company, for such consideration and upon such terms in every respect as the board shall think fit"—said he believed most of those present were aware of the reason for the increase of capital, and most of them knew what an amount of litigation and trouble there had been in regard to Austin No. 9. This was a very delicate subject, and it required very careful handling. He could assure them he had good reasons for stating that this concession was necessary to the Chile Company—not merely from its great mining riches, although he was told that a quarter of a million of gold had been taken out of this lode, but from other places which he was anxious not to enter into. He had come to an understanding for the purchase of this concession, but he did not think he need enter into particulars as to the negotiations. If they passed this resolution it would have to be confirmed within 14 days, and then he should be

in a position to give them every information. The difficulty of acquiring Austin No. 9 had been very considerably greater than any other purchase he had undertaken. It had had many suitors. (Hear, hear.) It would be futile in him to enter now into any explanation as to Austin No. 9. They had the gold there, and they should bear in mind that this Austin No. 9 was a shallow surface mine. He only asked them to pass this resolution, subject to a full disclosure of the whole scheme at the confirmatory meeting.

Mr. MARINO asked if the shareholders would then be at liberty to reject the scheme?—The CHAIRMAN: Certainly.

Mr. NEVILLE seconded the resolution, which was carried unanimously.

Major RAMSAY L'AMY said that the shareholders must have been favourably impressed by the way in which Mr. Watt had put forward the work which had fallen to him especially, and to the board during the last five months. He thought there were two matters for their consideration—first, what remuneration should be awarded to Mr. Watt as Chairman; and, secondly, what should be the remuneration of the board, to be divided amongst them as they thought fit. At a former meeting 500*l.* was awarded to Mr. Watt up to the present date, and he thought they would all agree that he had earned it. (Applause.) He would propose that his remuneration should be at the same rate per year.

The CHAIRMAN said he should like to continue the work, so as to bring the company to a proper footing. He thought the company was on the high road to success. (Hear, hear.)—Mr. WRIGHT seconded the resolution, which was carried *nem. con.*

Major RAMSAY L'AMY then moved that the remuneration of the board be at the rate of 500*l.* a year, and 5 per cent. on the dividends paid—for one year.

The resolution was seconded, and carried unanimously.

The proceedings terminated with a vote of thanks to the Chairman and directors.

RIO TINTO COMPANY (LIMITED).

The 12th ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday.

Mr. H. M. MATHESON (Chairman of the board) presiding

Mr. R. J. FENNESSY (the secretary) read the notice convening the meeting, and the minutes of the previous meeting.

On the proposal of the CHAIRMAN the report and accounts, and the auditors' report, having been circulated, were taken as read.

The CHAIRMAN said: Gentlemen, it is now my duty to call attention to various items in the report and the accounts, and to supplement, as far as I can, the information which you will have derived from them. When we met you last year we had to announce a reduction of 5*l.* 15*s.* 5*d.* per ton in the average price for copper, realised in 1883, as compared with the previous year. The deficiency thus created was, however, almost entirely made good by the increased production of copper. On this occasion we have to report a further decline of 9*l.*, and from causes to which I will presently refer we have been unable to apply the same remedy with equal success. This has naturally affected the returns from the company's produce, of which this metal forms so large a part. Including the balance brought forward from the previous year the gross revenue of the company was 610,813*l.* 15*s.* 4*d.*, against 752,039*l.* 10*s.* 9*d.* in the preceding year, and after providing for interest and amortisation of bonds, Government taxes in the different counties, and expenses of administration, and writing off for disused plant, and for sundry items in suspense, there remains a sum of 274,142*l.* 2*s.* 1*d.* available for dividend. All needful statements in regard to the outlays made at the mines, and the way in which these have been dealt with, will be found in the report, and should further explanations be desired I shall be glad to supply them in answer to questions. Gentlemen, in the present state of matters we feel it incumbent upon us to give our shareholders as much information as possible regarding the company's business, not only for the year upon which we are reporting but also for the future, and we are confident that this will be at once gratifying and reassuring. The works may now be said to be in a complete state for the largest output of ore that can be required, whether for shipment as pyrites, or for the production of copper by local treatment. The south and Dionisio lodes, which are one, have now been connected with the north lode by a tunnel, and from the galleries which have been opened up, we are safe in saying that not less than 150,000,000 tons of ore have now been proved. When the north lode is further opened up you may expect that large additional quantities will be laid bare. I may here state that some portions of the north lode have been found to contain exceptionally rich mineral, ranging as high as 5½ and even 6 per cent. of copper. We are now able to say, for the first time in the existence of the company, that your mine is ready and prepared, and, I may add, that as regards both quantity and quality our expectations have been fully realised. Hitherto the mine could only be regarded as in a more or less preparatory state, with its great resources sufficiently well known, but not developed, and requiring the expenditure of large means to put it in a condition to yield its produce expeditiously and cheaply. Now we can say that the preparatory period is past, and you will have observed from the statements in the report about writing off, that we are now ready to make arrangements for writing off annually against revenue a suitable sum for depreciation. The auditors have shown that we have already written down the original cost of mines by more than a million sterling, and that by continuing to write off the sinking funds of our bonds against revenue, which has been our invariable practice, the sum in the books representing the original cost of mines will disappear as these are paid off. In addition, however, to this the directors have now decided that a general depreciation account shall be opened, and a certain amount written down for each ton of ore that is taken out of the property, in order to provide for all depreciation of plant and machinery of every description. This will but slightly affect the general result of the working, but it will strengthen the position of the company, and will avoid any increase of capital in respect of the heaps at Rio Tinto, regarding which I shall presently give you further explanation. The total output of ore from the mine was 1,370,000 tons, an increase of 270,000 tons over the output of last year. The average copper contents of the entire output was 3½ per cent. by wet assay, being a further improvement of ¼ per cent. on the contents of the previous year's mineral. In regard to the ore exported, you will have observed that notwithstanding bad trade we had an increase of about 30,000 tons in the deliveries of pyrites to our customers. As announced last year, the agreement with the other large producers of pyrites came to an end at 31st December, 1884. This has not been renewed, and we then began a new series of contracts for three years, and a large portion for five years, to the amount of about 400,000 tons per annum, as against 272,000, 288,000 and 314,000 respectively for the three preceding years. The deliveries, under the new contracts, are progressing favourably. The copper contents of the 400,000 tons sold will be, at from 2½ to 2¾ per cent. dry Cornish assay, from 9000 to 10,000 tons metallic copper. I wish to state here, gentlemen, that although we have made a reduction in the price of sulphur, that reduction will be more than made up by the increased quantity of pyrites sold, and the general conditions of these sales are such that even with the present reduced price of copper, say, 43*l.* to 44*l.* per ton, your revenue from the export pyrites will be as large as it was in 1884, and not only is the reduction of price compensated in this way, but it will have the important effect of enabling a great industry to hold its own, and to increase the economical production of sulphuric acid or vitriol, an article which enters into the composition of so large a number of the great manufactures of the world. The copper made at the mines was a little over that of the preceding year, being 12,668 tons of 21 cwt., against 12,295 tons, but 2095 tons were not brought to market and realised, and have been taken over at cost price. These 2095 tons consisted chiefly of matte or regulus of about 30 per cent., and as it was a new product for us we found ourselves unable to obtain for it in the market such a price as we considered we were entitled to. As indicated last year, we have therefore secured for the company on a lease the Cwm Avon Copper Works, in South Wales, specially for working up this

material and our inferior precipitate. The works are now in operation. The produce finds a ready sale, and we anticipate good results. The chief cause of our being unable further to increase the copper production at Rio Tinto during 1884, was a certain deficiency of labour in the second half of the year. A number of our ordinary labourers are Portuguese, who go home at harvest time, remaining away for six or eight weeks. The cholera intervened just at that time, and the strict cordon established by the Spanish Government, with the seven days in lazaretto, was quite prohibitory to these men, who were unable to return till the quarantine was raised. At one time we were short as many as 1700 men, including the Portuguese referred to, chiefly in the burnt ore and copper producing departments. For the current year we see our way to a more decided increase of production. From the 1st January to the present time the rate of increase over last year is from 75 to 80 tons per week of metallic copper, and we estimate we shall make for the year 15,000 tons of 21 cwt., upon which a fair profit will be earned. As to the heaps, which represent ore under treatment for copper, they stand in your books at 350,197, or, say, 6l. 7s. 3d. over all, per ton of copper contained in them. The further cost to make this copper available is a small one, and it will always have a tendency to keep your copper production a cheap one. With our wet methods of treating the ore for copper, only about 50 per cent. of the copper contents come out in the first year, and the rest gradually, as the mineral becomes disintegrated. And it is evident that so long as the same amount of copper is not taken out of the heaps as is put into them in one year, an increase in the outlay of capital would be required. In other words, your stock-in-trade would be increased, for as such these heaps must undoubtedly be considered. It is also evident that so long as the equilibrium between the copper laid down and the copper taken out is not realised, your copper production has not reached the point it ought to have reached. Such arrangements have now been made at the mines as will secure that this shall take place in five or six years, or perhaps in less time, so that with an output of 1,500,000 tons, after deducting the copper contents of the export ore, and making allowance for the insoluble part of the copper which can only be extracted in time, your production of copper on the spot must increase by about a couple of thousand tons per annum till the equilibrium referred to is reached. This is an increase which, while it is important to the company, can have no effect whatever upon the great production of the world, which is said to have amounted last year to 210,000 tons. And when we speak of the cheap production of copper at Rio Tinto, we are able to affirm, as I have done here on former occasions, that no other mines in the world are in the same position as we are, along with the other mines in the Huéyva district, to cheapen our copper from the large accumulated heaps to which I have been referring. The general depreciation account, which we have just instituted, will meantime counterbalance any further increase of capital connected with the heaps, and must be considered as a collateral security for this stock in trade necessary for your large business. You will please, therefore, to observe that while no further increase of capital is either needful or contemplated, we shall have an increase of copper annually from this source. In now summing-up I will add one or two things more. Dealing first with the export pyrites for the current year, with its 9000 to 10,000 tons copper contents, I may say that, looking at the price obtained for the sulphur which, as you are aware, is absolutely sold, the sulphur in the pyrites will yield about 18s. per ton of ore, while at the present price of copper the copper in the pyrites will give us about the same amount—18s. per ton of ore. Under the existing conditions of freight and other charges you may consider one-half of the result of these pyrites shipments to be gross profit, or, say, 100 per cent. upon their cost price. Then as to the 15,000 tons metallic copper to be made on the spot, I am safe in saying that if sold at the present prices, and these are 10l. per ton below the average realised by us in 1884, this copper will yield a gross profit of 40 per cent. upon the cost of production. These two sources of the company's revenue, the one yielding 100 per cent. and the other 40 per cent. of gross profit on their respective cost, in a period of exceptionally low prices of copper—the lowest ever known—we venture to think will be considered as a solid basis for the business of an industrial undertaking. A visit to the mines was again paid by Mr. Doetsch and myself this spring, when we had the opportunity of conferring with the managers on the spot, and arranging for the future working. Let me now repeat that I am ready, so far as is consistent with the company's interest, to answer any questions which may be put to me, and I close by moving that the report and accounts now submitted be received and adopted.

The Hon. T. C. BRUCE, M.P.: Gentlemen, I beg to second the motion which has been made by the Chairman.

Mr. DUNDAS: Do we understand, Mr. Chairman, that even with the reduced price of copper to 43l. per ton, the profit on the increased production of copper and on the increased sales of pyrites will counterbalance that loss?—The CHAIRMAN: Yes, Sir. We have said that in the report, and in my address I have confirmed it.

The CHAIRMAN, in reply to Mr. BRACKSTONE BAKER, with regard to the 15,000l. sundry items in suspense now written off, said: We were in communication with the French Government in regard to the tax they had imposed upon the amount of our shares that were supposed to be in circulation in France. They had charged us, as we conceived, a sum of 13,000l. too much, and so long as it was *sub judice* and we had some good hope of making a recovery we kept the amount in suspense. The matter having been decided against us, and the charge having been fixed on a reduced scale, for the future the amount in question has been written off.

Mr. HENDERSON complained of the terms upon which the issue of the second mortgage bonds was made last year. He had been the only opponent of that issue, in consequence of the absence of information as to the terms upon which the bonds were to be offered, and he required some explanation as to the large amount paid for discount and expenses.

After some observations by Mr. DOETSCH, one of the directors, to the effect that we required to raise the money, and had secured it for the company on the best possible terms; and after replies by Mr. HENDERSON, Mr. ACTON DAVIES joined Mr. Henderson in the line of his remarks.

The CHAIRMAN then said there must be room for difference of opinion with regard to the management of financial affairs, but we had to manage this with the assistance of such financial combinations as we could form with friends, not only in this country but in Paris, and we had, of course, to give some terms to those who joined in guaranteeing the issue. He added that he would have been better pleased had he satisfied those gentlemen, but he was bound to say in his own justification that in the history of this company his firm had done more for it in the way of financial assistance than any house in the world would have done. (Loud cheers.) It was necessary to repay the advances made, and to provide a certain amount of working capital. This has been done, and the company is going on in its financial arrangements satisfactorily and comfortably. (Cheers.)

The CHAIRMAN, in answer to further questions, explained that the term gross profit upon cost, meant that all the cost of turning out the produce and sending it to market had been charged against it, but that the interest and sinking funds of bonds, and the expenses of administration, had still to be deducted from gross profits before the available net profit of the company was ascertained. Also, that the appointment of Mr. Blechynden as general manager at Rio Tinto had followed upon the resignation of Mr. Prebble about a year ago, and that the board had every reason to be satisfied with the new manager, so far as their observation had gone. The Chairman further explained about the copper contents of the heaps at Rio Tinto. These heaps consisted of washed burnt ore and virgin ore. The former contained, when laid down, about 19,000 tons of copper, the latter 60,000 tons—together 79,000 tons copper. Of that quantity 33,000 tons had been extracted and removed, leaving 46,000 tons copper, and they stand in the company's books at a cost of 6l. 7s. 3d. per ton. In answer to a definite question from Mr. Henderson, the Chairman said: We have stated in the report, and I have stated it again in my address to the meeting, that the provision of further money for the working of this

company is at an end—(cheers)—for years to come. I make no promise for our successors, but for years to come we have no occasion for it, and we do not intend to raise any more money whatever. We have laid our plans to have every charge put against revenue. The Chairman then put the question that the report and accounts now submitted be received and adopted.

The motion was carried unanimously. The CHAIRMAN: I beg to move that a final dividend of 6s., making with the interim dividend paid in November last 16s. per share, or 8 per cent., for the year 1884, be now declared payable on the 23rd inst., free of income-tax.

Mr. MACDONALD: I have much pleasure in seconding that. The motion was put and carried unanimously.

The Hon. T. C. BRUCE: Gentlemen, I have now to propose a thing which, after what you have heard from the Chairman, I have not the slightest doubt of your approving, and I am quite certain you would not want me to say any more about it. It is that the retiring directors—Mr. Hugh M. Matheson and Mr. G. A. Schroeder be re-elected directors of this company. I need not add anything to the statement which the Chairman has made, and I am sure you will appreciate the great services which he has rendered to this company.

Mr. CRAWFORD: I cordially endorse what Mr. Bruce has said, and I beg to second that motion.—The motion was then put and carried unanimously.

Mr. BRACKSTONE BAKER proposed the re-election of Messrs. Turquand, Youngs, and Co. as auditors of the company.—Mr. PATON: I beg to second the motion, which was carried unanimously.

Mr. ACTON DAVIES then moved a cordial vote of thanks to the Chairman for his conduct in the chair.—This was seconded by Mr. DUNDAS and carried unanimously.

The CHAIRMAN having responded the meeting terminated.

BLUE HILLS.

A meeting of shareholders was held on Wednesday.—Mr. J. C. DAUBUZ presiding. The accounts showed labour cost, 1060l.; merchants, 279l.; total costs, 1338l. The tin sold, 20½ tons, realised 922l., leaving a loss of 416l. on the 16 weeks' working.

The agents reported:—Since the last general meeting we have intersected another part of the lode in the 40 cross-cut, north of Joy's shaft, and have extended east and west on its course 6 fms. In the east end the lode is small, but going west it is of fair average size, and carries good stones of tin. We are continuing the cross-cut north to prove whether there is any more lode standing in that direction. We are urging on the 50 level east, and have just passed through a small cross-course; beyond this point there is a strong and kindly lode carrying a little tin. The slope in the back of the level is worth 20l. per fathom. We are forcing on the cross-cut to intersect the south part of the lode at the 66, but have not yet cut it. The lode in the 66 end is worth 20l. per fathom, and the slope in the back of this level is worth 24l. a fathom. There is a great extent of unexplored ground ahead of the 66 fm. level, and the lode is standing whole to surface. The 66 is about 40 fms. ahead of the 50 level, where we hope soon to have a good improvement. We have sold 7½ tons of tin this past month.

The CHAIRMAN congratulated the shareholders on the improved prospects of the mine, and explained that the small loss shown to-day was incurred in the first three months' working, as in the last month they had paid cost; and with the improved prospects he hoped to meet them at their next account without a loss.

The meeting was afterwards made special, when a resolution was passed for the shareholders to meet on the 2nd of June.

A call of 5s. per share was made.

MECHERNICH (RHENISH PRUSSIA) MINING COMPANY.

The annual meeting of shareholders was held at Cologne, on April 30.

The CHAIRMAN in giving his report said—The business year about which we have to report to you has again been unpropitious for lead mining, in consequence of the continued depreciation of the price of lead and silver, and the state of affairs is in consequence too similar to that of former years. Although the price of these metals did not fall in the same degree as in 1882 and 1883, we still suffered a reduction. The depreciation of the price of our metals is so extreme that it could no longer be totally compensated by the richer output in the mine, mentioned in our last report, and our rational working arrangements, which we are still endeavouring to render more and more perfect. If in consequence of the fact just mentioned we are not able to lay before you a balance-sheet of the same result as that of the last four years, we think notwithstanding that we can be content with same, especially when we consider the unfavourable state of the lead market. The balance-sheet has been prepared after the same solid principle as in former years, and the writing off has been done liberally. We request you to declare out of the net profits, mks. 1,272,407, a dividend of 12 per cent. per annum.

BALANCE SHEET.		Marks.	Marks.
Mining property, 1883.....	4,250,502-86		
New works.....	73,747-53		
	4,324,250-39		
Written off.....	165,000	=	4,159,250-39
Ground property, 1883.....	885,256-97		
Addition.....	11,503-23	=	896,760-20
Offices and workmen's dwellings, 1883.....	259,174		
Addition.....	31,275-27		
	290,449-27		
Written off.....	40,501-27	=	249,948
New gasworks.....			68,848-78
Smelting-works, 1883.....	426,749		
Addition.....	24,231-70		
	450,980-70		
Written off.....	27,058-70	=	423,922
Inn and hospital for miners, 1883.....	298,798		
Addition.....	2,618-66		
	301,416-66		
Written off.....	9,041-66	=	292,375
Railway property, 1883.....	762,552		
Addition.....	61,589-90		
	824,141-90		
Written off.....	61,810-90	=	762,331
Wire tramway, 1883.....	110,425-96		
Written off.....	3,378-96	=	107,047
Machinery, 1883.....	1,096,488-38		
Addition.....	16,621-93		
	1,113,110-31		
Written off.....	36,733-11	=	1,076,377-20
Debtors.....			1,495,173-28
Materials.....			394,942-89
Stock of ores and metals.....	716,003-45		
Written off.....	91,009-45	=	624,994
Cash, bills, and investments.....			1,708,055-80
Total.....			12,260,026-04

CR.		
Capital.....		9,600,000
Creditors.....		427,618-35
Reserve fund.....		960,000
Profits.....	1,706,873-27	
Written off.....	434,465-58	=
Total.....		12,260,026-04

The MANAGING DIRECTOR said: The past year has been the most unfavourable one for many years, and the continued reduction in the

price of lead has rendered the management of your affairs very difficult. The cause for this depreciation remains the same as explained in former reports, I can therefore abstain from entering again into such details, and wish only to make some general remarks about the lead mining industry. No other article of the metal industry but lead has suffered so much through the commercial crisis in the last decennary without recovering in the least. Those producers of lead who are at the same time owners of mines suffer most or alone by the depression of the market, whilst those smelting-works which buy their ores partially or wholly are less or not at all affected by it. It can be presumed with certainty that of those works which smelt their own ores only a very small proportion can now work with any profit at all, and it is an open secret that most of the works are approaching the point where any profit is impossible. The price which was already so very low and for many unprofitable, at the end of last year, has again receded mks. 2-50 per 100 kilos.—from mks. 22-50 to mks. 20 per 100 kilos., and even at the latter price it was hardly possible to sell lead to foreign countries where more than half of the production has to be sold. At the markets of London and Paris the monthly average prices were in London:—

	English Lead.	Spanish Lead.
January.....	£12 2 9	£11 16 8
February.....	12 0 7	11 12 9
March.....	11 10 3	11 3 9
April.....	11 8 1	11 1 4
May.....	11 9 0	11 1 6
June.....	11 3 9	10 18 0
July.....	10 14 0	10 6 3
August.....	11 4 3	10 15 6
September.....	10 19 0	10 10 11
October.....	11 1 6	10 13 9
November.....	11 1 6	10 12 6
December.....	11 4 0	10 17 7

Average price ... £11 6 7 £10 19 2

In Paris:—		July.....Frs. 25-87 per 100 kilos.
January.....Frs. 30-50 per 100 kilos.		
February.....	29-80	August.....27-40
March.....	28-87	September.....27-18
April.....	28-62	October.....27-40
May.....	28-40	November.....27-37
June.....	27-43	December.....27-62

Average price, Frs. 28-04.

As will be seen from the foregoing quotations the price fell steadily till the middle of August, when a temporary improvement took place, the cause of which was only that shipments from Spain to England could not come forward in the usual way in consequence of the difficulty in freight consequent to the cholera quarantine regulations. We have now a reduction of nearly half of the average price during 25 years preceding 1878, and even at these low prices it is difficult to sell lead, because buyers, whose confidence has been shaken by the continuous fall in prices, are holding off, and are only buying from hand to mouth. As the hope for a reduction of the duty on lead in America has not been realised, the prospect for the current year is such that there will be even for many well situated lead mines very little profit. It is to be feared that without a change for the better there must take place further retrenchment, or total suspension of the working in many mines, which will throw a large number of workmen out of employment, and cause great distress among this class of people. Here, in the Eifel Mountains, this has already taken place, as all other mines, which employed together about 2000 men, have suspended work, with the exception of a little exploring work. If our works, which dismissed only a fifth part of their men, and still employ 3200, were also forced to suspend work, poverty and distress all round would be the certain consequence. The average price obtained during last year for our silver was mks. 148-96 per kilo., against mks. 149-50 in 1883, therefore, mks. 0-54 per kilo. less. This reduction in price is not great by itself, but rather considerable when compared with the average price of 1882—mks. 152-20 per kilogramme. Whilst the price of silver was stationary during the first eight months of 1884, it afterwards fell each month, and stood in December at mks. 146 per kilogramme. The price of silver suffers in the same way as that of lead, and as a further fall is pretty sure, because those countries which have a silver standard, or double standard, seem all inclined to adopt the gold standard only. This will naturally bring down the value of silver, and affect all lead mines which have all ores containing more or less silver. The lead producers of Rhenish Prussia and Nassau petitioned the Prussian Government already in July, 1882, for the reduction of freight on lead, but have now, after nearly three years, not even received a reply. The same as the high freights, we must designate the mining tax as oppressive. The mode of taxing the lead ores for fixing the duty is certainly not to be justified, for it cannot be called justice when the value of the lead is fixed according to the retail price, which is generally about mks. 2 per 100 kilos. higher than the price obtained by producers. Although the state of the lead market made a reduction in the number of workmen necessary, the production during the last year was not far off from that of 1883; the same consisted in 33,130 tons lead ore, and 964 tons potter's ore. After suspending work in the open casts altogether we are now only working underground. In draft Schafberg the electric light has been introduced in the same way as formerly in shaft Virginia, and at the shaft Schafberg the fitting-up of the washing-room has been pushed on so that we were able to begin working in same last month. In the washing-room of shaft Virginia the washing and cleaning apparatus which was made of wood has, for durability's sake, been replaced by iron ones. At the smelting-works 16 roast and 9 blast furnaces were generally at work and produced 26,200 tons lead and 5250 kilos. (a little over 5 tons) silver. In order to obtain a better shaft for the lead fumes of the blast furnaces and be able to condense same still more, the erection of a new chimney was begun which by an opening of 3 metres at the top will reach a height of 120 metres, of which however only 22 metres were finished before the commencement of winter. At the smelting-works three lines of the railway have been raised by 2 metres, partly for the security of the numerous workmen there, and also to facilitate the unloading of the raw material arriving by our railway. Hereby we also had in view that all transport from the roast to the blast furnaces on the narrow gauge does no longer go on the same level as the railway, but underneath it. The necessary limestone was brought from our pit at Eiserey by the wire tramway, which at a moderate speed brings about 10 tons per hour to the smelting-works. During last year ironstone has neither been taken from the pit at Eiserey nor any other ironstone pit belonging to the company. Besides the old gasworks which produce 1400 to 1800 cubic metres gas per day, new gasworks, with all modern improvements, have been put up, and they produce in their present state 4000 cubic metres gas per day; but the foundation laid down is for works, producing 8000 cubic metres gas per day, and the whole plan provides for works, producing 12,000 cubic metres per day. There is no doubt that the gasworks will be able to furnish moving power cheaper than is now done by steam-engines, and after their completion the works will produce sufficient gas for illuminating purposes, and for gas-engines representing 400-horse power, to replace the present steam-engines. We have begun building 30 houses for our workmen, which will be ready for occupation before autumn. The number of workmen employed by our company was at the end of 1882, 3985; 1883, 3379; 1884, 3297, and has since been further reduced, as by new working arrangements much labour could be dispensed with. Our inn was at the end of 1884 occupied by 255 men. The wages were the same as the year before, the average wages for the shift of eight hours being mks. 5-34, and for the shift of 12 hours, mks. 2-20. The former comprise only miners, whilst in the latter all the young and some partly invalid persons are included who are often only nominally employed. The number of persons conveyed by our railway was 181,056. Bread, potatoes, beer, and coals have, as formerly, been sold to miners by the company under cost price. Taxes paid by the company amounted to mks. 147,363-68—over 1½ per cent. on the capital of the company. In the three parishes over which the mines of the company extend we pay in Strempt 85 per cent.

in Roggendorf 70 per cent., and in Mechernich 64 per cent. of the whole parish taxes, and as in the first parish all schools are free and kept by the parish, the company have decided to refund the miners of the other two parishes their school-money. Besides this the company has erected a large school on their own property in Mechernich, and given same to the parish for a nominal rent of mks. 10 per annum. The companionship of the miners numbered last year 1415 permanent and 1868 temporary members. The pensioners of same were 87 disabled miners, 215 widows, 292 orphans. According to the report of the physician 1917 men fell ill during 1884, 55 of whom remained under treatment at the end of the year. The income of the companionship amounted to mks. 93,187.07, and the expenses to mks. 91,512.31; the capital stood at the end of the year at mks. 170,767.05. With great satisfaction we may mention that thus far no social ideas or movements have been entertained by our workmen. About the financial position, which has been already explained to you through the balance-sheet, I wish to add the following remarks:—Debtors represent credits at banking houses and not yet paid invoices. Materials are valued at cost price, but ores and metals under same. Bills, as well as the funds which consist of Prussian Consols and first-class railway shares, have been valued at the quotation of 31st December, 1884, or at the price paid, if such was lower. Creditors, mks. 427,618.35, consist of mks. 64,041.63 owing wages, mks. 57,862.20 railway freights and amounts of invoices during December. The working capital consists of the following accounts:—Debtors, materials, ores, metals, bills, funds, and cash amounting to mks. 4,223,165.97. Comparing the result of last year with that of the preceding one, we find the profit of last year to be mks. 603,659.35 less. There are two causes for this large difference—firstly, the price obtained in 1884 for our lead averages mks. 3.62 per 100 kilos. lower than in 1883; and, secondly, the sandstone taken out of our mine contained nearly 4 per cent. less lead than was the case in 1883. These two facts, which could not be foreseen, and by themselves affect the profit of our undertaking, amount really to a loss of mks. 875,887 when taken in conjunction with the greater cost and loss in smelting these ores. Thus it will be seen that if the same prices and the same rich ore had been obtained as in 1883, our balance would have shown mks. 272,227.65 more than in 1883. This shows that the real productiveness of our works has been greater than in 1883, and the result obtained ought under present circumstances to be called a very good one.

UNITED MEXICAN MINING COMPANY (LIMITED).

The ordinary half-yearly general meeting of shareholders was held at the Guildhall Coffee House, Gresham-street, on Wednesday, Mr. GEORGE HARRIS in the chair.

Mr. DAVID GREENE (the secretary) read the notice calling the meeting, and the report and accounts were taken as read.

The CHAIRMAN, in moving the adoption of the report and accounts, said he had but few remarks to make, as the report gave the history of the proceedings of the company up to date. The mine of San Cayetano was still going on most successfully. They had some large returns a few weeks back; but this, like all silver mines, had its ebb and flow, and that was the reason why the receipts had been diminished for the last three or four weeks. There was no doubt they would again have larger quantities, because Mr. Hay wrote that the latest workings were improving. The directors had stated in their report that they did not wish to declare a dividend of less than 2s. 6d. per share, and, therefore, looking at the state of the finances, which only left them with 9000*l.*, and a liability of 2000*l.*, the directors thought it better to postpone the question of a dividend until remittances arrived from Mexico, which would enable the directors to pay a dividend, and on receipt of that remittance the board would at once call the proprietors together at a special meeting for the purpose of declaring such dividend. Mr. Rocha had written home ordering an engine, and the directors would take care to let him have one consistent with his conceptions. With respect to the item of the "old gentlemen" shares, to which he had so frequently alluded, the board had taken counsel's opinion upon it, and the directors were instructed that they could write them off the accounts, and they would cease to exist, so there would be no further difficulty with them, and there would not be any shares to put upon the market. There was another matter regarding the opening out of the San Andrew, which he would ask the secretary to read.

The SECRETARY read the information, which was to the effect that the drift in San Andrew was coming to ore underneath San Juan, which looked as if it was going to in San Juan what they had at San Andrew, which seemed a point of great importance.

The CHAIRMAN then moved the adoption of the report and accounts, and said he should be happy to answer any questions.

Mr. GOLDSMID seconded the motion.

Mr. MORRISON asked whether the 5000*l.* stated in the report to have been invested in addition to the 10,000*l.* mentioned in the accounts?—The CHAIRMAN: Yes, it is in addition to the 10,000*l.*, making 15,000*l.* altogether.

Mr. MORRISON said there was a considerable sum, over 7000*l.*, of liabilities to dividends; he asked whether these related to the shares in suspense.—Mr. WENHAM: These dividends are dividends upon what are called the "old gentlemen" shares.

Mr. MORRISON: And now you get rid of that liability as well as the liability upon capital?—The CHAIRMAN: Yes.

Mr. MORRISON said the accounts were more understandable than they were; but he thought they might be still further simplified. However, they were improved, and congratulated the directors upon it.—The CHAIRMAN: We thought you would be very much pleased with them. We took a great deal of trouble.

Mr. MORRISON, referring to the 15,000*l.* of reserve fund, asked to what amount it was intended to increase that fund?—The CHAIRMAN: We are compelled to have a reserve fund of 28,000*l.*, and we are gradually making it up. We have made it up to 15,000*l.*

A SHAREHOLDER suggested whether it would not be desirable for some competent person to go from this country to the mines from time to time, or, at any rate, once, in order to have a look at matters out there, and investigate the mine, and bring the directors into closer contact with Mr. Hay. When Mr. Farber, who had worked with Mr. Hay, was a member of the board, there was a closer connection, and the board of directors were more intimate with matters than now. He asked whether there was any intention on the part of the board to do that?

Mr. WILLIAM ABBOTT agreed with Mr. Morrison that the accounts were somewhat improved, but said there was room for improvement still. However, he objected to always rising to address the meeting in a spirit of criticism. At the same time, as he believed they were on the eve of great prosperity in this company, he thought it just as well they should start fair, and that the old shareholders, and those who might become new shareholders, should understand the accounts thoroughly. Therefore, he would throw out two or three suggestions for their consideration, for it was only at these general meetings that the shareholders could express their particular views.

He suggested that, in future, that the report should be sent out 14 days before the meeting, at the same date as the advertisement calling the meeting. The report now in his hand only reached him on Monday, and, therefore, the time for examining it was short.

The report stated that the balance-sheet was now separated from the revenue account, but he failed to find any revenue account. (A laugh.) Perhaps that was a point on which the accountant would kindly enlighten him. Then, as regarded the San Martin Mine, what was the outlay there, and where was it situated? He noticed there was the large amount of 619,677*l.* for outlay on other mines and districts; what proportion of this did the board expect to recover from the companies which were still working, and who, in the event of striking ore, would pay this company part of the outlay? In the event of those mines coming into a paying condition, that was a debt which would have to be repaid to the company. He was pleased to hear that Mr. Rocha had ordered an engine. That looked like business—as if he saw that an engine would be required for the lower workings. As regarded the dividend of 2s. 6d. per share, he did not see any necessity for calling the shareholders together to pass a special resolution in order to make an interim payment. The shareholders would be quite satisfied to receive the dividend when

the company was in funds, without the formality of being called together to receive it. As regarded the London Distribution Fund, it was only for six months, whereas the Mexican Distribution Fund was for twelve months. Then as regarded the exchange investment account he should be glad to know what it meant; was that the accumulation on capital account which had been brought in for the first time? With respect to the debt due by the Mexican Government, was that a forced loan to the Mexican Government, and what probability was there of this company getting the money back. A gentleman had suggested the sending out of directors in order to be more intimate with Mr. Hay; he did not see how they could possibly be more intimate with Mr. Hay than through his correspondence, which was most satisfactory. He should be sorry to do anything which would hurt Mr. Hay's feelings, for they had full confidence in him. The board had opportunities, and might make opportunities of getting information from Mexico otherwise than by sending out a member of the board, who might know nothing about mining, and, therefore, whose evidence and report would be valueless. At the same time he thought it would be desirable that some one should be associated with Mr. Hay as an assistant, because Mr. Hay had only one life. No doubt that was a matter which was under the consideration of the board, and he hoped the directors had taken some precaution in the event of Mr. Hay's illness. As regarded the old shares, he thought the position of these had not been quite clearly explained. Did the Chairman mean that they could reduce the capital by the amount of the old shares?—The CHAIRMAN: They do not exist; they are extinguished.

Mr. WILLIAM ABBOTT: Will you not have to go through the process of making the company "limited and reduced"?—Mr. MORRISON: No, they are not issued.

Mr. WILLIAM ABBOTT said that three or four months ago the shareholders authorised the issue of shares to bearer. He asked when would the scrip be issued to those who applied? As regarded the mine itself, he had that morning seen a letter from Mexico, addressed to a friend of his, in which the writer spoke in the very highest terms of the prospects of the undertaking, and added—"Never in the history of the company has the mine looked so prosperous as at the present time." (Cheers.)

The CHAIRMAN said that as regarded sending anyone from England to Mexico the matter had been under the notice of the directors, who thought it would probably be satisfactory at some future time to send out their present secretary, Mr. Greene, who was a Spanish scholar, and spoke Spanish almost as well as English. If Mr. Greene went over he could confer with Mr. Hay as to the accounts, and after being there could come home and be perfectly cognisant of all the workings of the finance. As regarded finding a miner in England who understood Spanish, and also understood silver lodes, he did not think it was possible to find one, and he stated this two or three years ago when the subject was mooted. If Mr. Greene went over he would see the working of the whole company.

A SHAREHOLDER: Could you not have a local director? ("No, no.")

The CHAIRMAN: We have no knowledge of any gentleman in Mexico.

Mr. MORRISON: You have Mr. Rocha in Mexico.

The CHAIRMAN: Certainly; he is our mining engineer, and has brought the mine to a state of perfection. He has ordered an engine and shown his confidence, and we are going to let him have everything he desires, so that if anything is wanted he will not be able to say it is from the supineness of the directors. As regarded the expenses of the mine of San Martin, the expenses of the San Martin were included in the audit expenses. It was not a mine, but an outlet from the audit, and the expenses were included in the expenses of the audit. As regarded the declaration of a dividend, there was a necessity for calling a special meeting, under the Articles of Association. As regarded the certificates of shares to bearer, they would be ready about the end of the present month, though he did not anticipate that many persons would apply for them. As regarded the exchange adjustment account, that was from 1854.

Mr. WILLIAM ABBOTT: Would it not be better to write it off?—The CHAIRMAN said they could not do that, as they wanted the Mexican accounts to assimilate to the London accounts.

Mr. WILLIAM ABBOTT: You have not replied to my question about the outlay on other mines and districts.—The CHAIRMAN: That is taken off their share before it is paid over to them. The audit owners are not in debt.

A SHAREHOLDER enquired about the reserve fund of the "new concern" in Mexico, 27,343*l.*

Mr. WENHAM explained that in Mexico, under the arrangement with the joint owners, 5156,250 had to be put aside as a reserve fund, and it so appeared in the accounts. At present it had not been remitted to England, but it stood amongst the assets on the other side of the accounts. By degrees it would be remitted over to London. The reserve fund was being made in Mexico, and existed in the shape partly of cash, partly debtors, and partly stock, and as realised it would be remitted to London and invested.

Mr. JOHNSON added they had already put aside an amount equivalent to half the 5156,000, and when it was all put aside it would be transferred to the London account.

Mr. WENHAM: In fact, you are using your reserve for trade capital; as soon as you make sufficient capital you will remit the reserve to England.

The resolution for the adoption of the report and accounts was then put and carried.

Lieut.-Gen. J. WALPOLE D'OYLEY moved the re-election of Mr. George Harris as a director. He said Mr. Harris had been a director 22 years, and had stuck to the company through good times and bad.

Mr. ARTHUR GILLOT seconded the motion, which was carried.

Mr. J. G. JOHNSON moved the re-election of Lieut.-Gen. J. Walpole D'Oyley as a director.

A SHAREHOLDER seconded the motion, which was carried.

The next business was the election of auditors. On this point some discussion ensued, and Mr. WILLIAM ABBOTT stated that he was prepared to propose a gentleman in the room of one of the auditors who retired, but was informed by the CHAIRMAN that he could not do this, as proper notice had not been given of an intention to submit the gentleman for election. In the end Mr. F. A. M. Nicol was re-elected an auditor, and Mr. T. A. Sergeant was elected an auditor in the place of Mr. George Allen, who retired, and did not offer himself for re-election.

On the motion of Mr. WILLIAM ABBOTT a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

WEST SETON.

A 16-weekly meeting of shareholders was held at the mine, on Thursday.—Mr. THOMAS PRYOR (the purser) presiding.

Labour costs were 2537*l.* 7s. 6d.; merchants' bills, 1407*l.* 1s.; total debits were 3994*l.* 2s. Copper ore realised 275*l.*; tin sales (59 tons 2½ cwt.), 2504*l.*; arsenic, 270*l.* Total credits were 3031*l.* 16s., a loss being shown of 957*l.* 6s.

The CHAIRMAN remarked that the accounts were charged up as closely as possible. The sales of tin were somewhat less than the last four months; but they were but 1 ton short. Their arsenic had this time been sold in a different way than was last time the case. That they were under a contract, the price being 6*l.* 10s. per ton. It was decided to let by tender at the last account, and the result has been a difference to them of 10s. per ton less. The arsenic trade was not so good as it was last year.

Mr. WICKETT enquired if there had been an increase of 2*l.* per ton on the tin last sold.

The CHAIRMAN said they had a rise, but there was not a rise in the standards. The increase was 1*l.* 2s. 6d. per ton to them on the previous sale.

Mr. WICKETT: Any rise in the produce?—Mr. BARNETT: No, I do not think so.

The report of the agents (Capt. W. R. Rutter and Samuel Bennetts) stated that Nicholl's engine-shaft had been sunk 13 fathoms under the 226 fathom level. They had commenced driving a new bottom level east and west, naming it the 238. The lode in the bottom of the shaft when they left off sinking was 4 ft. wide. The

238 had been driven east 9 ft., and the lode was worth 8*l.* per fm. and was 5 ft. wide. In 3 fathoms further driving this level would be holed to the level which had been driven towards the shaft from the bottom of the pump winze sunk under the 226, thus opening a valuable piece of ground for stopping. The 226 had been driven east of Nicholl's shaft 30 fathoms; the lode in the end was 5 ft. wide, and worth for tin 10*l.* per fathom. The winze under the 226 east of shaft has been sunk to the required depth, and a level driven back 2 fathoms towards the shaft. The 226 fathom level end on the north lode was now 24 fathoms west from Nicholl's shaft. The end was now being driven on the north side of the lode, which was worth for the part carried (5 ft.) 12*l.* per fathom. There was more of the lode standing to the south. This lode had opened up a valuable piece of ground for stopping for the entire distance from the shaft. The pump winze sinking under the 226, 9 fms. west of Nicholl's shaft, at the point where the south and north lodes diverge, was down 6 fms. The lode for the part carried (5 ft.), and for the length of the winze (9 ft.), was worth for tin 18*l.* per fathom. As soon as the 238 west has been extended to this winze they should commence to rise against it, in order to effect a communication, when a large section of profitable ground would be available for stopping. At the 216 they had driven a cross-cut north 3 fms., and had just intersected the north lode, but had not yet opened on it to speak of its value.

Capt. RUTTER observed that he was glad to say their prospects in the bottom were very much improved, and when the two winzes were communicated to the next level they would be in a better position than for a very long time past. He saw no reason why they should not increase their returns somewhat considerably.

Mr. JOHN MAYNE: With a little better price for tin than now?

Captain RUTTER: Yes. I hope the time is not far distant when we shall meet our costs—I hope a little more.

Mr. F. HARVEY: Is there not something new? I speak of the north lode.—Captain RUTTER said they had the north lode bearing about 40° to the north of west. There was no sign of any lode like it anywhere in the mine. This lode had the bearing of the counter lode, and was an entirely new feature, and he thought an important one. The ground was soft, and the lode was worth from 16*l.* to 20*l.* per fathom. It was seen first at the 226 west. The lode might be standing some distance up, and they would be able to drive cross-cuts.

On the motion of Mr. F. W. MICHELL and Mr. MAYNE, the accounts, showing a balance against the mine of 5251*l.*, were adopted.

A call of 10s. per share was made, this wiping off the loss on the 16 weeks and 300*l.* of the previous balance.

The CHAIRMAN thought this was the best course to follow. The calls made had been wonderfully well responded to, the arrears now amounting to 400*l.* only. They had called up, from October, 1883, to January, 1885, 11,500*l.*

THE USWORTH COLLIERY EXPLOSION.

The coroner's enquiry into the circumstances of the Usworth Colliery explosion closed on Monday night. The conclusions of the jury are worthy of some attention. The broad features of the accident will be fresh in the recollection of our readers, and need only be referred to here in the briefest manner. The Usworth Colliery is situated between Newcastle and Sunderland, and is in the occupation of Messrs. Palmer, of Jarrow. It is of large extent, and gives employment to about 400 men, but on the evening of the 2nd of March, when the explosion took place, only 80 or 90 colliers were in the workings. Forty men and boys were killed, or died from their injuries, including two members of a rescuing party who were struck down by after-damp. Two theories were put before the jury to account for the accident. One was that there was a sudden fall of roof which liberated a quantity of gas, and that this became ignited, probably at a lamp. The other was, that the explosion was due to the firing of a shot. In support of the first theory, the evidence was mainly theoretical and circumstantial. No witness could say definitely that a fall took place. On the other hand there was positive evidence that a shot was fired. The theory that this caused the disaster had the support of Mr. Atkinson, Assistant Government Inspector. The jury took this view of the case. Their finding is that the explosion was caused by a shot, the fire of which acted upon "the coal dust and a small percentage of gas." They stated that there was no evidence to show that the pit was not in a safe condition at the time, and they expressed the opinion that no one was to blame for the catastrophe. The jury made no recommendation on the subject of shot-firing, preferring to leave the matter to be "dealt with by the proper authorities." It is to be hoped that it will be so dealt with. Whilst it is perhaps unnecessary absolutely to prohibit the practice under all circumstances, the conditions under which shots are now fired might very well be revised. The revision should take place in the light of the evidence we now have as to the important effect of coal dust in developing explosions. This point was indirectly suggested to the jury by Mr. Atkinson in the following remarks—"I wish to state my conviction that any colliery manager not aware of the danger of firing shots in places where coal dust is deposited, would, so far as gas is concerned, have considered that there was no danger in firing a shot at Brown's place." Brown's working place was the point at which the shot was fired. There cannot be a doubt that coal dust plays an essential part in these disasters. It is probably as dangerous an element in a mine as gas, and the verdict of the jury will tend to impress this upon the minds of colliery managers. Increasing attention is fortunately now being given to the point. The complete scientific examination of the subject will lead to the modification of several of the older working arrangements of collieries, and can hardly fail to prevent some of the present sad loss of life in mining.—*Manchester Examiner.*

Labour Notes.

THERE is no immediate prospect of the Yorkshire strike coming to an end. In the meantime matters are becoming more and more serious. The men and their families are approaching the starvation point, and the losses of the owners are reaching heavy figures.

On Tuesday the constabulary ejected a number of topmen and their families from the colliery cottages at Denaby. No opposition was offered, the people behaving in a most orderly manner. Only officials and a few sick, whom it would be dangerous to remove, are now left in possession of the cottages. The evicted families took refuge in several tents which have been erected, and in temporary lodgings at Mexborough and Swinton. Yesterday a woman, named Thompson, who died some time after being ejected, was interred, the funeral being attended by about 1000 miners. The officiating clergyman expressed his sympathy with the people in their deep distress, and hoped that the dispute would soon be settled.

A LARGE meeting of miners at Normanton, on Tuesday, rejected a proposal almost unanimously to refer the wages question to arbitration, and a resolution approving of the decisions of the several miners' conferences, was adopted. The principal speakers were Mr. B. Pickard, the labour candidate for the Normanton Division, and Mr. Parrott, of the Yorkshire Miners' Association.

THE notices which have been running for 23 days at the Church-lane Colliery of the Old Silkstone and Dodworth Coal and Iron Company terminated on Wednesday, and the men brought out their tools. About 900 men and boys are affected. Since the strike commenced the pit has been worked to its full extent.

A LEEDS gentleman distributed ½ ton of bread to the distressed families at Normanton, on Wednesday. The Normanton Football Club, aided by several tradesmen, gave away 400 loaves. At Normanton Common 300 loaves were given away by a combination of tradesmen, besides quantities of soup. The Castleford Relief Committee is doing a great amount of good. A body of miners left Castleford this week for Durham, taking their tools with them. Batches of miners are out in Derbyshire and Lancashire seeking relief. The Union men are receiving 3s. 6d. per week, and non-Union 1s. per week.

THE leading colliery proprietors in the Manchester district have given notice to their miners and to the datalors employed underground of a reduction in wages equal to about 10 per cent.

BRITISH MINES.

... is point. The lode in the 141 driving east will yield 1 ton of arsenical muscovite per fathom. There is nothing to call for any special remark in the 108 cross-cut south during the week. We are making good progress in the rise by the

side of the lode in back of the 72 to communicate with the 48. Our stoping ground continues to yield in the aggregate 48 tons of copper ore, and 19 tons of mastic per fathom.

WHEAL GREENVILLE.—T. Hodge, May 4: The 205 east is letting out much water, which has entirely drained the winze above; this winze will be resumed in a day or two. The 150 east end is harder than hitherto, worth for tin 121 per fathom. The stope behind said end for width carried is worth fully 551, but although we have neither wall of the main vein I believe we are carrying the most productive part. The 140 west of the western shaft, is worth 184 per fathom. The 130 west end is worth 121 per fathom. The 120 west end is showing a better appearance, and producing more tin; will report its value in my next. All other places are fully up to my valuation. Our fortnight's produce will be sold at our usual time, say, 22 tons.

WHEAL METAL AND FLOW.—W. Argall, S. P. Curtis, May 8: Masons have commenced to put on brick for stack; engineers have fixed cylinders, &c.; carpenters are making cisterns, after which they will commence to make boulders and frames for the dressing-floors. Shaft men are making fair progress in cutting down the engine shaft, and all work is being pushed forward as fast as possible.

FOREIGN MINES.

WHEAL COPPER.—A. Brand, April 15: My last fortnightly report was dated 2nd inst., since then I have to report as follows:—Knocknol: First level still has been driven during the last fortnight, making the total length of level 584 ft. 6 in. The vein in this level has been pinched by an intrusion of trap, but is now widening out again. The vein, although bearing little copper looks well, and I have no doubt that in a few feet will show as much copper as formerly. Second level east has been driven 20 ft. 1 in. during the past fortnight making the total length of level 237 ft. 1 in. This level now shows evidence, the full width of the level, and is well charged with stamp copper, but very hard drilling, and unless it changes speedily the contractors will make a poor month's work. Winze: The winze has been sunk 17 ft. during the past fortnight, but we cannot expect the same rate of progress to continue. At present, the men are shovelling their dirt the 17 ft. by means of stages, but at the end of this week it will be necessary to put in a windlass. As you are already aware, this winze is being sunk in a crossing, and we cannot expect to have much copper in it, but, at the present moment, the bottom of the winze shows more copper than it did when we started sinking. Wolsley: First level west has been driven 15 ft. 10 in. during the past fortnight, making the total length driven 63 ft. 2 in. In order to hurry the connection between the Wolsley and Knocknol first levels on the 1st of the month, I told both parties that if they holed through this month I would give them a bonus of £20 between them, but they cannot do it. This level looks very well, and is producing good stamp copper. In the east level we have only driven 4 ft. 11 in. during the past fortnight, making the total length of level 36 ft. 11 in. The reason of this is that the men have been employed in stoping out the level on both sides the shaft, so that when we commence sinking we will be able to dump our rock into the skip, or, to make it plainer, we have been stoping out a plat on both sides of the shaft. This work will be finished to-night; as soon as the trade is hoisted across the shaft at the old first level so as to prevent the water following us down. Now that the snow is melting rapidly we have been greatly troubled with water, not only here but in the other shafts, and we now have to keep the compressor running extra time to keep the water clear. In the Great Western shaft at the old first level the vein is almost entirely amygdaloidal, and is very rich. Mill: The water supply still continues to be ample, and the engineer there is doing lathe work on the old Butler hoisting engine. During the past fortnight two of our carpenters have been employed painting the roofs of the compressor and Knocknol engine-house with asbestos paint as a safeguard against fire, may result for this reason. The engine-house at the top of the Knocknol engine-house caught fire from a falling spark, but was extinguished before any damage was done. Nothing further to report.

DEVALA MOYAR GOLD.—Manager, April 13: Solomon's Reef: There is no change to report. I am sending the ore which is taken from all the drives which are in quartz to the mill, and shall keep it going for the next three weeks, and then clean up. I completed the repairs to the mill, and started it again this week. I have taken 65 ozs. of amalgam from the crushing previous to the stoppage of the upper plate, and the plates and tank are working well. We shall get a fair lump of gold from the tail of these crushings. The main tunnel has been driven 2 ft. 14 in. level, 8 ft. 3 in. level, 5 ft.; cross-cut from same, 1 ft.; 400 level, 12 ft.; 500 level, 5 ft. The tunnel in the landscape has been driven 12 ft. The reef in it is 3 ft. thick, prospects well, and may turn out a good thing. Harewood Reef: The tunnel has been driven 6 ft. for the week. There is no other change to report.

INDIAN CONSOLIDATED GOLD.—April 10: We arrived here on 7th April and received charge of all property on the morning of the 8th. I was very much pleased with the appearance of the country in this district; it resembles in every particular the famous gold fields in Victoria and the Southern gold fields of Queensland. And let us hope that the reefs will turn out as good as they have in those places. On your property there seems to be plenty of quartz. Most of the work up to the present time has been done on the western side of your property, and consists of six shafts on the supposed course of the reefs.

MYORRE GOLD.—B. D. Plummer, April 14: Mining Operations: There is nothing new to report. The lode in the bottom of the mine look just as good as ever, though the assay value this week is not quite as high. Taylor's shaft, sinking under the 225 Feet Level, Lode, 4 ft. 6 in. wide; assay value, 6 ozs. 12 dwts. 22 grs. In the north end of the shaft the lode is very strong. In the south end it is mixed with patches of trap.—236 Feet Level shaft; Lode, 4 ft. 6 in. wide; assay value, 4 ozs. 0 dwts. 1 gr.; a well-defined and promising lode.—Stamping: This work has been carried on by day during the past week, and we are still working by day only. We shall clean up the month's produce next Saturday; the result will be quite satisfactory.

NEW EMMA SILVER.—G. Oullins, April 13: The railway company intend to commence opening railway up canyon the first of next week, and in all probability will have it in running order by May 1. The old smoke stacks are completely destroyed; I have therefore ordered new ones, and immediately the road is open will ship them to the mine and resume work without delay.

NORTH MEXICAN SILVER.—E. Jennings, April 20: We have timbered San Saturnino shaft from surface down 54 ft. 4 in., and filled up the old workings with stuff, and put in a good footway to that depth; the water is all gone, and there is some stuff in bottom of the shaft. I have measured the shaft from surface down to the stuff, I find it to be 132 ft. 4 in., we shall cut down the south end of shaft and make it long enough for a whim and footway shaft, as it is now too short for a good working shaft; this work I hope to accomplish in about five weeks, then we shall sink the shaft with all speed. Pulbrook's shaft sinking from surface about 100 fms. to the south of San Saturnino shaft, on the same lode, is down 51 ft. 8 in. in a strong and well-defined lode. We shall sink San Saturnino shaft deep enough for a new level and drive towards Pulbrook's shaft with all speed, at the same time get down Pulbrook's shaft a little deeper and drive towards San Saturnino shaft, so as to sink a winze down to ventilate the end driving south from San Saturnino shaft, and open out good stoping ground.

OSCAR GOLD.—J. Daw, jun., April 23: In reference to your communication of the 17th as to work done in Oscar, and the probable increase in value for gold in the lode, I hand you the following report:—Oscar shaft is now 46 metres—about 25 fms.—on the underlie below the surface. Two sets of levels have been driven—12 and 25 m. levels; the former is driven east 20 metres—about 11 fms.—and west 22 metres—about 12 fms.—and the latter 12 metres—about 6½ fms.—and 15 metres—about 8½ fms.—respectively from centre of shaft. A little stoping has been done in the back of the 12 m. level, but not below. From the 25 m. level a cross cut has been driven north about 20 metres—about 11 fms.—whereof about 13 metres—about 7 fms.—through Oscar lode, and about 7 metres—about 4 fms.—in waste to the gable. To-day we have intersected a lode which has a most encouraging appearance. We do not think this is the one on which Croft shaft is sunk, but shall be able to give more particulars in a day or two. We hope to resume sinking Oscar shaft next month. Croft's shaft is sunk about 10 fms. from surface, at the bottom of which a level is being driven east to open stoping ground, and to set as an accumulator for surface water while continuing the sinking of the shaft to same depth as 25 in Oscar, when levels will be driven on course of lode to meet each other. As soon as this is completed a very large section of ground will be opened. At Daw's we are stoping the ground from surface, and shall continue to do so as long as practicable, it being a very inexpensive way of opening the lode. We shall continue prospecting on the other lodes as soon as a few more miners come around. As to the yield of gold, my previous report will have given you our present position. The finding of rich coarse gold in Oscar 25, and in the lode on which Croft's shaft is sunk 40 fms. distant, is sufficient proof that the yield is improving. Our next clean up, which will be as soon as we stop to connect our extra 30 heads, will, we think, be a considerable improvement on all previous crushings for this year. To-morrow we commence crushing on new sample from Daw's lode.

—J. Daw, jun., May 1: We cleaned up Daw's sample last evening and find result to be same as last time. We have crushed 17 tons, and retorted 4½ ozs. of gold, a trifle better, if anything. We get, I may say, stones wherein visible gold daily, and we are now going to sink a shaft at bottom of stope. Yesterday we opened on the lode 40 fms. north of present workings, and from appearance, we consider it to be as rich, if not richer, than where we are working, as our first part of stuff gave a very good result. In a few days I shall be able to report more fully. We start on Monday to make the tramroad, and when this is ready shall start as much as we can, in the meantime get ready. Daw's lode is certainly a success, as the present crushing has had no favorable result. It is the unpolished result of the lode, taken from the surface on an open cutting about 10 ft. deep.

—Telegram, May 6: Am making tramway to Daw's lode, and hope to stamp 100 tons sample from there this month. Report posted.

FORT PHILLIP AND COLONIAL.—R. Bates, Clunes, Feb. 24: Total quartz crushed for the month ending Feb. 4, 1897 tons; total gold obtained, 381 ozs. 11 dwts.; average per ton, 4 dwts. 18 grs.; Yankee ground, 4 dwts. 10 grs. Receipts, 16191, 134, 3d.; payments, 17774, 135, 9d.; in Australia to date, 54, 4s. 4d.

—R. Bates, March 5: No 11 and 13 Levels, Western Reef: The drive going north of No. 3 winze is in a distance of 72 ft., taking about 6 ft. of the lode. The stone from this part has been poor the last month, but is now looking better. The drive south is in 47 ft., and has just gone through a slide; the lode is small 7½ ft.—No 11 Level, Western Lode: The tributors are still getting payable stone below this level in section 3. No further driving has been done on this lode at this level, or at the No. 10 level.—No 10½ Level, Old Man Lode: A drive has been commenced south from a winze in section 10, and we expect to get payable stone shortly.—No 9 Level, Old Man Lode: The Central Company are now in a distance of 102 ft. into their ground; lode small in face at present, stone looking payable. The tributors who were driving south on the 10 level are now sinking a winze in the Criterion ground near the south boundary; lode 2 ft. 6 in., stone looking fair.—No 8 Level, Old Man Lode: No driving has been done here during the month.—No 4 Level, Western Lode: The tributors have been shooting out side of the lode, which is here very wide, and has to work; stone poor. They have now commenced to drive into the Yankee ground; stone looking better. The tributors in the winze 227 ft. north of the cross-cut have put an intermediate level south, and are now stoping away the lode. The last two crushings have been poor, but think it will improve.—No 4½ Level, Robinson's Lode: The tributors are still driving north, stone

barely payable.—South Shaft: No work has been done at this shaft during the month. All the underground works are in good order.

ROBY AND DUNDERRIG.—Report for April 13: Dunderberg: There are 10 tributors at work, and 18 tons of ore shipped. No change to report.—Lord Byron: The drift from the winze below the tunnel level near the west shaft shows no improvement. The excavating work at the top of the new shaft for the reception of the engine and boiler is progressing satisfactorily, and will be completed in a few days, when work will be resumed in the shaft. The stope in the back of Nos. 1 and 2 caves shows a slight improvement, although the ore is rather low grade. The ore body in the middle chamber, bottom of No. 1 cave, is looking better; it is now connected with the north chamber. The stope above the tunnel level is producing ore in paying quantities, 22 tons ore shipped for the week, and 20 tributors at work. We have also 19 men making a wagon road to the entrance of the tunnel.

SPANISH COPPER.—George Scott, April 27: Fronteriza Mine: We have not been able to send precipitate to port on account of rain and have had to keep engine working every day, and occasionally by night. The calcination heap is burning in a satisfactory manner, and I am preparing another. A nice little lot of copper is being gained from the vitrified mineral by the system shown in the plan sent in my last letter. I can now inform you that the vein of rich mineral, testing 15 per cent. at least, is about 1 metre wide. Such weather as we have now, has not been known here for 25 years.

SPITZKOP GOLD.—The secretary of the Spitzkop (Lydenburg) Gold Mining Company (Limited), writes:—"I am instructed by the directors to inform you that a cablegram has been received from the company's agent at Pretoria to the effect that the company's right to the water on the farm, which has hitherto been disputed by certain diggers, has at last been recognised by the High Court. The manager, Mr. Stone, is, therefore, now in a position to commence operations, which he has been unable to do earlier, owing to the want of this water. He has, meanwhile, by sinking many deep shafts on the high hill known as Silo Hill satisfactorily demonstrated the exceeding richness of that ground, and has thought it unnecessary to prospect there further, as will be seen by reference to quotation given below from this letter of March 15. A large quantity of timber for sluices, &c., was purchased some months ago, and arrived at Spitzkop in February, thus enabling Mr. Stone to urge forward the preparations for utilising the water. A few weeks ago the directors received from Mr. Stone a box containing 40 samples of ore, which he came across in the different shafts and workings. Some of these are very rich, plainly exposing to view the nuggets of gold encased in the quartz. These samples may be seen at the company's office. The following quotations are taken from letters received recently from Mr. Stone:—Dated February 15: "If I had facilities for working as I would like, I think I could show at least 50000 per month, and I believe considerably more. As it is now—the rainy season well spent, and the necessary improvements yet to be made—I think 20000 per month actual washing would be all I could expect."—Dated February 22: "I have stoped work above S. T. and S. claim, having thoroughly prospected it, and proved it to be very rich. Dated March 1: "I have commenced eight shafts in the vicinity of shafts 63, 65, 70, and 71. These latter four are abandoned, having struck bed-rock at 30, 29, 32, and 27 ft. respectively. The gravel prospects well in all, and will pay largely when hydraulised."—Dated March 8: "I have thoroughly satisfied myself as to the great richness of Silo Hill, and have changed my men to another hill towards Spitzkop Mountain, on the southern portion of the farm."

FOREIGN MINING AND METALLURGY.

There has been a good deal of stagnation in the household coal trade in Belgium. It is considered in some quarters that there is a likelihood of a rather better demand for coal for metallurgical purposes; but, of course, a good deal depends upon the future drift of political events. Coke producers are hoping for an advance, in consequence of the makers of coke in the basin of the Ruhr having appointed a committee to supervise the sale of the general production during the next five years. This measure coincides to some extent with another aiming at a general reduction of 5 per cent. in the production. The General Company for Promoting the National Industry of Belgium reports that at the close of 1884 it had 1,025,393, invested in various Belgian colliery undertakings. The return realised upon this investment in 1884 was 27,314, or at the rate of 2.66 per cent. per annum. At the close of 1884 the company had also 225,432, invested in iron-works; the return realised upon this investment last year was 2208, or at the rate of 0.98 per cent. per annum. These results must, of course, be regarded as extremely meagre. It is admitted by the company that the shares which it holds in industrial undertakings are also greatly depreciated, so that 1884 was undoubtedly a gloomy period in the history of the concern. In the course of 1884 the company purchased shares in the Lévant du Flénu, the Produits de Flénu, the Gouffre, and the Marcelline and Cœciliet Companies, while shares were sold in the Charleroi United Collieries Company, as well as in the Bonne Esperance and Scellin Companies.

As regards the Belgian Iron Trade, it may be observed that in the Liège district the attention of industrialists has been a deal occupied by the Antwerp Exhibition. Pig has been quoted at Liège at 17. 18s. 4d. per ton, charcoal at 4. 4s. per ton, and plates at 51. 12s. per ton. In the Charleroi group the threatened war between Great Britain and Russia has exerted a good deal of influence; and the situation, already precarious, has gone from bad to worse. The reference of some of the matters in dispute to arbitration, which has been announced this week, may have a good effect; but some little time must clearly elapse before confidence can be regarded as fully restored. Few undertakings have been at more pains to avail themselves of the advantages offered by steel rails than the Antwerp and Rotterdam and the Great Central Belgian Railways; and the ratio of their working expenses to their traffic receipts appear to be still gradually declining, having fallen from 53.51 per cent. in 1882, to 53.47 per cent. in 1883, to 53.02 per cent. in 1884. As a means of stimulating the external rail trade of Belgium, an undertaking was formed some few years since under the title of the Economic Railways Company. The company realised last year a profit of 55,999, and gave its shareholders a dividend for the year at the rate of 5.57 per cent. upon the paid-up capital. The company is interested in tramways in Naples, Trieste, Warsaw, Milan, Bergamo, Cremona, Florence, Turin, and several other towns and cities. The total capital raised by shares and obligations is 796,880.

There has been an absence of considerable transactions in the French Iron Trade. A sufficient current of small orders has, however, continued to maintain about as much activity in the works as has been noticed in them for several months past. Coke-made iron has been supported at St. Dizier at 51. 16s. to 61. per ton, while iron of mixed quality has made 61. 8s. to 61. 12s. per ton. Other descriptions have been dearer to the usual proportionate extent—say, about 12s. per number. Rough axles have continued to be quoted at St. Dizier at 71. per ton, while finished and adjusted axles have been priced at 101. 16s. to 117. per ton. Iron has been fairly well maintained at Valenciennes at 51. 12s. per ton, although 51. 8s. per ton would be accepted in the case of large transactions. The orders received have been sufficient to keep the works going fairly well. The demand for plates has been rather weak. The foundries in the Valenciennes district are reported to have little to do, and although their working staffs have been a good deal reduced they are employed with difficulty. The French shipbuilding undertaking known as the Forges et Chantiers de la Méditerranée has declared a dividend of 17. per share for 1884; of this dividend 8s. per share has already been paid, and the balance of 12s. per share is to be distributed this month. The Saint Etienne Foundries, Forges, and Steelworks Company has announced a balance dividend of 16s. per share for 1883-4. The total dividend paid by the company for the past financial year will thus be 17. 12s. per share.

LEAD ORES.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
May 2.—Pierrelite	170	£ 9 0	—	Pantier, Lead Co.
— ditto	100	£ 9 0	—	Weston, Son, and Co.
— Pierrelite	50	£ 8 0	—	J. F. Kimmel.
7.—Roman Gravel	75	£ 7 6	—	Walker, Parker, and Co.
— ditto	50	£ 7 12	—	Crebbin and Co.
8.—South Darren	25	£ 12 0	—	Walker, Parker, and Co.

SILVER LEAD.				
Date.	Mine.	Tons.	Price per ton.	Purchaser.
May 7.—Weardale	50	£ 11 6 3	—	—
— ditto	50	£ 11 6 3	—	—
— ditto	50	£ 11 0 0	—	—
— ditto	50	£ 11 0 0	—	—
— ditto	32	£ 11 2 4	—	—
— ditto (slag)	24	£ 10 5 0	—	—

BLACK TIN.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
May 7.—Wheal Metal and Flow	3 5 9 15	£ 43 15 0	—	—

THE MINERS' STRIKE IN THE WEST RIDING.

There is now every appearance that the strike of miners in the West Riding against the proposed reduction of 10 per cent. in their wages is fast coming to a close. During the few weeks they have been out there has been a great deal of suffering and privation, whilst the funds of the Association have become all but exhausted, and the subscriptions for the benefit of the non-Unionists have sensibly declined. The Unionists, who were entitled to 9s. per week, only received on the last occasion 4s., and 12,900 non-Unionists for the week ending April 28 received 6071. 5s., or rather less than 1s. each. Under such circumstances there is now a disposition shown to give up a contest which has done so much harm to thousands of families, and will probably result in a loss of wages to the extent of something approaching 200,000. A great deal has been said to excite public sympathy in favour of the men, and the Home Secretary has been appealed to in the case of Denaby Main, whilst the aid of the Archbishop of York has also been invoked for the benefit of those on strike. Yet all the speakers at the miners' meetings, and most of the writers in the local and other papers do not touch the actual point on which the question of a reduction of wages really rests. It is said that coal miners, owing to the nature of their employment, and the risks they run in following it, ought to have good wages, and this no one will deny. But the question is not what we should like to see a man have for performing a certain amount of labour, but what the state of the trade he is engaged in will admit of, looking at the prices which employers receive for what is produced, along with the attendant cost. The miners have not done this, but have simply insisted on being paid a certain amount of wages, no matter what price coal was selling at in the markets, or whether the owners were losing money or not by keeping their pits going. Many of the colliery-owners have told their workmen that they had been carrying on at a loss, but could not continue to do so any longer; and that wages would have to bear a part of the burden they had previously borne themselves. The reply to this was given by the leaders of the men to the effect that all the colliery-owners should combine, and by so doing raise the price of coal to a point that would admit of their making a fair profit and paying their miners better wages. But to raise the price of coal by any list of the mine-owners in the West Riding, or, indeed, in any other large district, is an impossibility, as we demonstrated a short time since; whilst were it done it would greatly reduce the number of miners employed, and seriously injure nearly every trade in the country. Such being the case, it is evident that miners' wages must to some extent be based on the price at which coal has to be sold, and colliery-owners should not be expected to pay any portion of them—be it ever so small—out of capital, as a great many of them say they have had to do of late. Therefore, before striking, the men would have been wisely advised had they been told to ascertain the price at which coal was selling and its cost of production. This they could easily have ascertained, and then they would have been in a position to say whether or not the mine-owners were making a profit, and if they were so pleased as regards the business doing by them that the wages being paid could be continued, this would have been satisfactory, and in the event of the men having shown that their employers were making such a profit as would admit of their paying them the same rate as they had done for some time past, they would have enlisted the sympathy as well as the support of the public. This they have not attempted to do, nor has it even so much as been hinted at, by the leaders of the men, although it is the actual pivot on which the question of wages really rests. This appears to be the opinion of the Archbishop of York, for in his letter in reply to one sent to him in connection with the dispute at Denaby Main, he writes, "The issue is, or ought to be, a question of fact—can the masters afford, or can they not, a certain rate of wages, ascertainable by the usual ratio between wages and selling price?" This information the mine-owners offered to furnish, or give every facility for ascertaining, by allowing their books to be inspected; but this was not taken advantage of, nor is it likely to be now. The leaders of the men, who urged them to take the course they have done, there is every reason to believe, knew very well that coal for a considerable time past has not realised any profit whatever, and, therefore, consider it would be useless to take any notice of selling prices or the books of the colliery proprietors. Their argument, constantly reiterated up to the present time, is that wages are low enough, and that the men have nothing to do with the price at which their employers sell their coal. There is not the slightest sympathy shown towards those who have kept thousands of men at work at their own loss. On the contrary, they are held up as tyrants who wish to deprive working men of what they are entitled to as a matter of right. The Denaby Main owners, in particular, have been subjected to no end of abuse for acting within their rights. The men employed by them, the majority of whom earn from 8s. to 9s. a day, would neither work themselves nor allow others to do so. They received the notices agreed upon where they were employed, but determined to remain in the owners' houses, so that they should not be occupied by others who were willing to work. There was, then, nothing left to be done but to evict them, and in doing so the owners were only assuming the same right which they accorded to the men when they entered into an agreement of a mutual character.

COPPER ORES.

Sampled April 22, and sold at Tabb's Hotel, Redruth, May 7.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Mellancar	77	£ 19 0	Levant	50	£ 23 10 0
ditto	73	£ 12 0	ditto	35	£ 31 0 0
ditto	72	£ 14 6	ditto	5	£ 32 7 6
ditto	71	£ 15 6	South Tolcarne	27	£ 24 0 0
ditto	69	£ 10 6	ditto	48	£ 3 5 6
ditto	67	£ 18 6	West Seton	20	£ 3 4 6
ditto	65	£ 12 0	ditto	2	£ 7 0 0
ditto	62	£ 1 6 0	ditto	20	£ 3 0 6
ditto	55	£ 18 0	Wheel Comfort	10	£ 11 0 0
Levant	51	£ 3 17 6	North Wheel Busy	10	£ 11 0 0

TOTAL PRODUCE.

Mellancar	610	£ 973 17 6	West Seton	70	£ 236 8 0
Levant	141	£ 744 12 6	Wheel Comfort	30	£ 40 10 0
South Tolcarne	75	£ 275 18 6	North Wheel Busy	10	£ 15 10 0

Average standard..... £ 75 3 0 | Average produce..... 7
Average price per ton..... £ 28 | Quantity of fine copper, 64 tons 5 dwts.
Quantity of ore..... 828 | Amount of money..... £ 2286 15 6

LAST SALE.—Average standard, £ 75 15 0 | Average produce, 6½
Standard of corresponding sale last month, £ 74 2 0 | Produce, 7½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	252	£ 814 2 6
P. Grenfell and Sons	208½	£ 378 4 3
Nevill, Druce, and Co.	118	£ 142 15 6
Williams, Foster, and Co.	265½	£ 712 1 9
Elliott's Metal Company	82	£ 249 12 6

Total..... 926..... £ 2286 15 6

NO SALE on the 14th May.

Copper ore for sale on Thursday, May 21, at the Royal Hotel, Truro.—Mines and parcels.—Devon Great Consols 801.—South Caradon 355.—Holmbush 213.—Gunnislake 174.—Bedford United 132.—Glasgow Caradon 95.—New Quebrada 45.—Emily Copper 25.—West Caradon 23.—Phoenix 16.—New West Caradon 13.—Total, 926 tons.

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See Selected List published by S. JAMES, 14, Angel-court, London, E.C.

SPECIAL BUSINESS in the following or part:—

25 Bedford United, 13s 9	10 West Kitty, £25 5s 9	200 Lisbon Berlyn, 3s 3d
25 Carn Camborne, 4s 3	40 West Phoenix, 2s 6d	10 La Trinidad, £5
10 Devon Con., £2	10 Wheat Basset, £7	20 Mason Barry, £3 3/4
290 D. Friendship, 6d	50 Wheat Crebore, 20s	20 Montana, 34s
50 Drakeville, 6s		30 Mysore Gold, 34s
20 East Blue Hills, 13s 9	30 Asia Minor, 3s 6d	100 Nacupai, 1s 9d
10 Ecton, 13s 6d	60 Akankoo (f.p.), 4s 6d	17 New Emma, 4s 6d
100 East Wh. Rose, 4s 6d	250 Balkis, 2s 3d	50 New Callao, 3s 9d
50 Frongoch, 5s	25 Bratsberg, 12s 9d	100 Nouveau Monde, 1s 9
100 Goginan, 1s 6d	100 Cartago, 17s 6d, 3s 6	150 Nundyroog, 8s 6d
10 Great Lacey, £3 7s 6d	100 Cartago, fully paid,	50 Nine Reefs, fully paid,
25 Gunnislake (Oilt.), 7s 3	4s 6d	3s 6d
20 Great Holway,	10 Copalco, 42s	50 Oscar Gold, 17s 6d pd.,
37 Home Mines Ltd., 13s	50 Canada Copper, 3s 3d	7s 6d
20 Killfret, 2s 6d	50 California Gold, 4s 9	50 Oscar Gold, Vendors,
50 Kit Hill Gt. Cons., 9d	50 Callao Bis, 15s 6d	fully pd. 6s 6d
50 Kitty St. Agnes, 12s 6	100 Chile (New), 17s pd.,	50 Organos, 6s 9d
50 Leadhills, 24s	6s 6d	20 Orita, 13s
100 Mounts Bay, 3s 3d	100 Chontales, 2s 9d	50 Potosi, New, 6s 6d
20 New Kitty, 16s 9d	50 Colombian Hyd., 9s	50 Port Phillip, 2s 3d
50 New Wt. Caradon, 9d	500 C. Sth. Austr. Copper,	25 Panulicillo, £2 6s 6d
100 Old Shepherds, 9d	1s	120 Ruby, 4s 9d
20 Phoenix United, 20s 6	100 Denver Gold, 1s 3d	15 Richmond, £3 5s
10 Polberr, 43s	10 Elberhardt, 2s 3d	20 Rio Tinto, £3 15s 3d
50 Prince of Wales, 3s 6	3 El Callao, £52	10 Schwab's Gully, £3 5s
100 Parys Copper, 6d	40 Frontino, 7s 6d	50 Spitzkop, 7s
15 Roman Tracvel, 6s 6	100 Glenrock, 1s 6d	100 Toluca, 1s 9d
50 South Caradon, 5s	100 Gold Coast, 2s 3d	30 Tocopilla, 2s 6d
10 S. Conduroor, £7 7s	100 Hoover Hill, 5s 9d	11 Toluca A, £3 15s
20 South Darren, 4s 9d	200 Indian Consol., 4s	100 Transvaal Gold, 2s 3d
10 So. Frances, £3 7s 6d	20 Jaali, 2s 6d	50 Transbrachery, 4s 6d
50 Treavanne, 42s 6d	100 Kohnroor, B, 4s	20 U. Mexican, £3 1s 3d
50 Van, 13s 6d	100 Kapanga, 4s	100 Victoria Gold, 8s 6d
	100 La Plata, 5s 6d	500 West Callao, 2s 3d

* S. JAMES can buy or sell any of the above shares. Correspondence invited. Trustees, executors, and others will find their duties considerably lightened by submitting schedule of shares held to Mr. JAMES, who will return the same by next post with market values attached.

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50 Akankoo, 5s	20 Home Mns. Trst, 13s 9	20 Orita, 20s
25 Bratsberg, 12s 9d	25 Holywell District Ld.	20 Oscar Gold, 17s 6d
290 Balkis, 2s 6	40 Hoover Hill, 5s 9d	50 paid 7s 6d
50 Colombian Hyd., 9s 6	50 Indian Con., 4s 6d	75 Ooregon, 2s 6d
75 California Gold, 4s 9	100 Kapanga, 4s	20 Panulicillo, £2 6s 6d
30 Callao Bis, 15s	50 Kohnroor B, 4s 3d	40 Potosi, 6s 6d
100 Chile Gold 17s pd, 4s 6	10 La Trinidad, £5	20 Prince of Wales,
75 Chontales, 2s 9d	75 Lisbon Berlyn, 3s 3d	100 Ruby, 4s 9d
20 Colorado, £1 13s 9d	20 Montana, £1 15s	10 Rio Tinto £10 5s
75 Denver Gold, 1s 3d	25 Mysore Gold, £1 13s 9	15 Richmond, £3 5s 9d
25 East Rose, 3s 3d	100 Nundyroog, 8s 6d	10 Schwab's Gully, £3 5s
29 Ecton, £1	50 Nine Reefs, 2s 9d	100 Transvaal, 2s 3d
50 Elberhardt, 2s 6d	50 New Callao, 3s 9d	10 U. Mexican, £3 1s 3d
25 East Blue Hills,	25 Organos Gold, 6s 6d	50 Victoria, 7s 6d
50 Frontino, 7s		20 Van, 13s 6d
75 Glenrock, 3s		

Offers should be made for shares in the foregoing list when no prices are indicated.

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THOS. ELS and Co. have special business in the following:—

150 Balkis, 2s 3d	20 Home Mines, 13s 6d	100 Organos, 6s 6d
30 Bratsberg, 12s 9d	120 Indian Consol., 4s 9	25 Orita, 21s
40 California, 5s 3d	20 Leadhills, 23s 6d	20 Potosi, 6s 6d
25 Cartago, 4s 6d	10 La Trinidad, £4 15s	25 Rio Tinto, £10 5s
50 Chile, 6s 6d	100 Lisbon Berlyn, 3s 4d	10 Roman Graves, £3 5s
25 Colombian Hyd., 9s 6	50 Oscar, 17s 6d, pd, 7s	20 Toluca A, £3 7s 6d
60 Colorado, £1 12s 6d	50 Montana, 34s	100 North Toluca, 18s
40 Copper Queen, 37s 6d	75 Mounts Bay, 3s 9d	50 Victoria, 7s 6d
25 East Blue Hills,	40 Mysore Gold, 34s 9d	20 Schwab's Gully, £3 5s
25 Ecton, 20s	50 Old Shepherds, 9s 3d	100 York Peninsula, 1s 1

Daily price list may be had on application. Business in Foreign Stocks, Railways, and all Stock Exchange Securities at closest prices.

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CLEARANCE SALE AT WHEAL JANE,

KEA, CORNWALL.

Midway between Truro and Chacewater Railway Stations.
MR. W. T. DAVEY, Auctioneer, Redruth, has been instructed
to SELL BY PUBLIC AUCTION (in suitable lots), at the above mine-
on THURSDAY, May 14th, 1885, at Twelve o'clock precisely, the undermen-
tioned valuable

ENGINES, WITH BOILERS, MATERIALS, ACCOUNT HOUSE
FURNITURE, AND OTHER EFFECTS, comprising:—

One good 60 in. cylinder pumping engine, with first piece of main rod; three
good 10 ton boilers with fittings.
One 20 in. cylinder winding engine, with fly wheel, cage, &c.; one 10 ton
boiler with fittings.
One 24 in. cylinder winding engine, with crusher attached (complete); one
10 ton boiler and fittings.
One excellent stonebreaker (12 in. by 20 in.), largest in use in the county (by
Blake).
One pair of nearly new 8 1/2 in. cylinder horizontal engines, with powerful
steam capstan and drawing gear (complete).
One excellent 6-ton boiler. One dry tube, 35 ft. by 4 ft. diameter.
One calciner, Oxland. One good double-power winch.

PITWORK.

About 70 fathoms 9 and 8 in. complete, two 9 in. poles, five 17 in pumps, three
18 in. working, one 12 in. door-piece, one 14 matching strapping plates, two very
good lifting screws (10 ft. and 7 ft. long).

A quantity of railroad iron, chain, steam pipes, tram wagons, skips, wire-rope,
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large quantity of launders (various sizes), excellent wood sheds, and a very con-
siderable quantity of useful and old timber; several pairs of first-class large
treble, double, and single blocks (brass bushes), scales and weights, taps, plates
and screwing wrists, carpenter's bench, pit saw, tin sacks, scales and weights,
tin knives, hutch, new brass beam with copper gun, weights, and funnel, and
miscellaneous other articles.

THE COUNTING HOUSE FURNITURE

Consists of office desk, table, chairs, two warranted fireproof safes, copying
presses, letter scales and weights, several dining and kitchen tables, large settle,
20 Windsor chairs, brass copper ore scales and weights, clock, glass and
earthenware in variety, knives and forks, boilers, saucepans, fenders, fire sets,
wash tray, &c.

Also a first class miner's dial, complete—by Wilton—with two sets of legs, with
measuring chain, &c.

The whole of the foregoing will be sold without any reserve (excepting engines
and boilers).
To view, apply to the Agents on the mine, and for further particulars to
Capt. R. SOUTHEY, the Manager, or at the offices of the Auctioneer, 4, Station
Hill, Redruth.—May 4th, 1885.

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THE MINING JOURNAL,

Railway and Commercial Gazette,

LONDON, MAY 9, 1885.

THE LESSON OF THE USWORTH EXPLOSION.

The result of the enquiry as to the cause of the explosion which took place at the Usworth Colliery in March last, when 42 lives were lost, fully bears out the views we have on several occasions expressed in the *Journal* with respect to shot-firing in mines, which are known to give off quantities of inflammable gas. It is well known to all persons officially connected with mines that shot-firing has been the cause of most of the great mining explosions which have taken place during the last quarter of a century at least, including that at the Oaks Colliery, in 1866, when 360 lives were lost. Yet with this knowledge the reckless system of using powder in coal mines, when a considerable number of the men were engaged in the various working places, has been carried out to an extent which shows that past experience, the records of mining disasters, and their probable cause, have had but little weight with some persons who are entrusted with the management of mines. At the Usworth Colliery, however, it appears that besides using gunpowder, there was an additional element of danger always ready prepared to increase its destructive power when only a small quantity of gas was lighted—that was the fine coal dust which in some mines is always floating about between the floor and the roof, and is almost as easily ignited as powder itself. That this dust had a good deal to do with the explosion may be inferred from the evidence of the Inspector of Mines, as well as from the verdict of the jury. Mr.

ATKINSON, the Inspector alluded to, in his evidence expressed the belief that a shot caused the explosion, and, being over-charged, the concussion shook the coal dust out, which ignited from the flame of the shot. Several mining engineers, we are told, repudiated the theory that the shot caused the explosion. If it did not, then the only way to account for the sad catastrophe is that there was a light of some sort, which set fire to an inflammable and explosive mixture. Neither an explosive mixture of carburetted hydrogen nor dust can be ignited without a flame or light of some kind. The contact of coal or iron at a red heat is not sufficient to produce the inflammation of carburetted hydrogen mixed with air, so that the probability is in favour of the theory that the shot was the cause of the explosion, having ignited some gas as well as coal dust. There are not so many ways, indeed, for accounting for an explosion in a mine; but it must be patent to all that one cannot take place without a light of some kind, either candle, lamp, match, or some similar combustible. The view we have taken appears to be similar to that of the jury empanelled to enquire into the cause of the explosion, and who returned a verdict that "the explosion was caused by the firing of a shot by the Browns, the shots acting upon the coal dust, and a small percentage of gas." The fine coal dust, it may be stated, is readily ignited, and the flame would be carried along firing the particles in its passage until, in all probability, it came to a place where there was some gas, and then the explosion would be the result. Coal dust, then, admittedly greatly increases the power of an explosion of gas; and Mr. DICKINSON, the senior Government Inspector of Mines, tells us that a small explosion may be produced with very little gas indeed. But as it appears that some mine managers question the effects attributed to coal dust, we may say that the most eminent of our mining engineers fully recognise its dangerous qualities. Not so very long since a series of experiments were made by a committee appointed by the German Government, for the purpose of testing the effects produced by coal dust on explosions in mines. From the experiments made it was found that the initial disturbance was affected by firing a shot with a quarter of a pound of gunpowder, and the result was stated to be startling and marvellous. About 20 metres of the floor were covered with the dust from a mine, and 10 metres of the gallery next the shot filled with a mixture of fire-damp and air. When ignited the flame shot out from 185 to 190 ft. in a second of time with a noise like the bursting of a magazine, and a train weighing from 10 to 12 cwts., which was standing on the rails close to the gallery, was sent along the metals 52 ft., and then driven off, while the rails were inclined to an angle of 4 degs. This shows what a tremendous power coal dust has in connection with gas and explosions. But it may be and is rendered harmless at many mines, and that in a very simple way. This is done by watering the roads and passages in the morning, and, perhaps, once or twice in the course of the day. This completely lays the dust, and in addition to rendering it harmless, it prevents it from being inhaled by the workmen and others who have to pass along the roads, &c. As to carburetted hydrogen gas, it is only explosive when mixed with a certain proportion of atmospheric air, so that when it forms 1-8th or 1-9th of the whole volume it is explosive in the highest degree. But there is no reason why this dangerous mixture should be allowed to accumulate in a mine. The ventilation should always be sufficient to thoroughly sweep away the gas before it reaches anything approaching to danger, and this is no difficult task, even in the most fiery of mines. But when the ventilation is neglected, then the gas and air will combine to a dangerous point, yet after all, there can be no explosion unless there is a light or flame from a shot. Consequently where there are the best of safety-lamps used, no shot-firing allowed, and the ventilation maintained as it ought to be, an explosion in a mine would be impossible. Still it would appear that the system of working at the Usworth Colliery was one attended with great danger, and should never have been tolerated. There is no more dangerous practice in a mine than firing shots at a time when a number of men are following their usual employment. At many places the practice is to fire the shots after the body of man have left off, and this work is generally left to be performed by two or three trustworthy persons. Had this been the case at Usworth there would not have been a sacrifice of 42 lives. The Mines Regulation Act makes such provision as we have just alluded to. In the General Rules (section 51) it is provided that a competent person shall be appointed to fire the shots, and before doing so shall examine the place where it is to be used, and under certain circumstances it shall only be done "when the persons ordinarily employed in the mine are out of the mine, or out of the part of it where it is to be used." For some time past the Home Secretary has been endeavouring to do away with shot-firing in certain mines, and in lessening the danger in others, by requiring that in all cases no shot-firing shall be carried on until all the ordinary working men are out of the mine. The explosion at Usworth Colliery will therefore greatly strengthen his hands in dealing with the matter, for it is evident had the rule been imperative that shots should not be fired whilst men were at work, there could not have been a sacrifice of 42 lives at one blast or explosion. In doing so the Home Secretary will also be carrying out the views of the Hon. ALFRED LYTTELTON, in his report with respect to an explosion which took place at the Ponycraig Colliery, in South Wales, last year. He proposed that there should be an amendment of the special rules relating to blasting under the powers conferred on "the Secretary of State by section 53 of the Coal Mines Regulation Act, such amendment to provide that (1) the duty of shot-firing shall be confined to one, or at most two, officials of special competency; (2) no blasting shall, in any case, take place unless every person is out of the pit whose presence is not absolutely necessary for the operation." If shot-firing, then, is to be tolerated, such a change as that proposed by Mr. LYTTELTON should be enforced, and strictly interpreted, otherwise we shall from time to time have to record slaughter of a wholesale kind in consequence of the use of powder in our coal mines. Had such a rule been in force at the beginning of the present year, as before stated, we should not have to deplore the loss of lives at Usworth, from a really preventable cause. It is, therefore, to be hoped that the Home Secretary will, by using the powers he has under the Act of 1872, take such steps as will prevent the recurrence of a serious loss of life from shot-firing in coal mines, and this he can easily do.

VICTORIAN GOVERNMENT FOUR PER CENT. LOAN.
The London and Westminster Bank (Limited) is instructed by the Victorian Government to invite tenders for a loan of 4,000,000l.; 2,600,000l. of the amount asked for is for the redemption of the Victorian Government Six per Cent. Debentures, issued under the Railway Loan Act, 1857, and falling due in London on 1st October, 1885; 580,620l. is to provide funds to redeem Six per Cent. Debentures issued under the Railway Loan Act, 1857, and falling due in Melbourne on 1st October, 1885. The remaining portion of the loan now being issued is to provide for certain public works and expenses, as detailed in the Act 48 Victoria, No. 805, is for the amount of 819,380l.; this latter portion of the loan is in reality the only addition to the present public debt, which amounts to 28,332,000l. The liberal terms under which the loan is offered will no doubt cause it to be subscribed for readily at a fair premium over the minimum of 94.

RAILWAYS IN BRAZIL.—Mr. William Tweedie, A.M.I.C.E., has been appointed chief engineer and superintendent of the Porto Alegre Railway in Brazil, and sails for Rio Grande by the Royal Mail steamer of May 24th. Mr. Tweedie has had long experience in Brazil, having been chief resident engineer of the San Geronymo Railway, the first line opened in the province of Rio Grande do Sul. Since the opening of that line, ten years ago, this large and fertile province has made rapid strides in railway construction, and there are now some hundreds of miles of line in operation and in course of construction.

Mining Notes.

We have pleasure in directing attention to the first of a series of Papers in another column, by Mr. Thomas Collingwood Kitto, dealing with his experiences in South Africa when acting as Government Inspector of Mines there.

THE 16-weekly meeting of the shareholders in West Seton was held on Thursday, and it was the most favourable account for some time. The loss—957l. 6s.—was below the loss last time, when it was 1080l. 13s. This account, labour costs increased 118l., but merchants' bills decreased 268l.; total costs this time were 3989l., against 4208l. the previous 16 weeks. Although the tin this 16 weeks was 1 ton less than the last, the receipts for tin were several pounds higher. In this mine the shareholders have come forward gamely during the past 20 months. The sum of 12,600l. has been called up, and the arrears, considered good, are 400l. only.

A SHORT discussion at West Seton meeting, on Thursday, elicited the fact that the mines on the great flat lode make a better produce than a number of other mines. It was mentioned that Wheal Basset was having 46l. per ton. West Seton received for the last batch of tin 43l. 5s. per ton, or 11. 2s. 6d. more than on the previous occasion. This was an increase not really warranted by the state of the Cornish standards, on Monday. And here we are reminded of a question which has again and again been under discussion in the county, and which has led to denunciation and threat. We allude to the "ring" formed by the local smelters. We are not, after all, quite so sure that this ring does the damage some people imagine. We are led to arrive at this opinion from the very fact we have above adduced. If Cornish smelters collectively agree on a price, which is bound to be the lowest paid, the mine does not suffer if it can, clandestinely it may be, obtain a higher price than that decided upon by the whole fraternity of smelters. And an instance is shown of departure from the lines laid down in this price given, above the standards, in West Seton.

THE secretary of the New Chile Gold Mining Company writes: "Telegraph just to hand gives return for month at 1900 ozs. from 2200 tons. This shows quartz is gradually improving; present return representing about 1 oz. 3 dwts. per ton gross. As this represents little more than two-thirds of the usual quantity crushed per month, which, we presume, is owing to the droughts prevailing rendering the water supply insufficient, the board consider the result very satisfactory."

THINGS seem to have taken a decided change for the better in connection with the New Chile Gold Mining Company, and the speech of the Chairman, Mr. Hugh Watt, will be pleasant reading to those shareholders, and there were many who began to have serious doubts whether they would ever receive any return upon their investment in the company. The acquisition of Austin Mines "8 and 9" has been arranged, and those who know the value of those properties will be able to appreciate the importance and significance of this statement. The machinery has been hastened to the mine with commendable dispatch, and in the event of the hoisting machinery being erected within a few months, as seems probable, the company should then be in a position to largely increase its output. Certainly the Chairman seems justified in his assertion that the company is now in a better position than at any time during its existence.

It is reported that Wheal Owles is not losing so much as for some time past.

It would be well were those who have the conduct of the affairs of Owen Vean and Tregurtha Downs Mine, situated in St. Hilary parish, Cornwall, to explain the remarkable breakdown that has occurred in respect of finances. We have in previous issues indicated that miners had been thrown out of employment; but our latest information is of a far more serious character than we had anticipated. On Monday morning the sad spectacle was presented of the majority of the men—some 70—who had been employed at this mine walking two, three, and four abreast through the streets of Penzance, their mission being the unsatisfactory one of consulting a solicitor as to the steps they should take to obtain their pay. "How many of you are out?" was asked of the men. "All," was the reply, "with the exception of the enginemen." "And what pay is owing to you?" "We have not been paid for seven weeks, and have been out a fortnight," was the reply. Such a state of things is truly unfortunate, and, as we have said, the why and the wherefore should be explained. It is reported, and believed, in the locality of the mine that there are slight chances of a continuance of operations at Owen Vean and Tregurtha Downs.

It is unfortunate in more than one respect that this deadlock has taken place. Not only is there here the fact of such a large number of men—many of them with large families—thrown out of employ, and unable to obtain the money earned by them; but we have also here another instance of the failure of the Limited Liability system as, under certain regrettable conditions, applied to Cornish mining. Is it, indeed, to be wondered at that sentiments such as those expressed by Capt. Bishop, of East Pool, recently—and reported in the *Mining Journal*—are used when an incident of the character that in this mine occurs, and when it is remembered that the mine was started in the large sum of 60,000l.? Tregurtha Downs is, purely and simply, another example of the evils of promotion money. Promotion money has meant the absorption of much capital in most of these Limited Liability mines—capital which had it remained in hand would have allowed of a comparatively long period for development, instead of the whole of the capital—as now is apparently the case here—being exhausted by the time the mine has been brought into a fair way of development.

AND yet one cannot but entertain the sincerest regret that the shareholders in Tregurtha Downs find themselves in the position they do. Admitting the fact that the poor, hardworking miners have not—or had not early this week—the money for three weeks due to them, we, at the same time, must say "floors," as the Cornish expression has it—or, in other words, the surface arrangements—are as excellent as any that can be seen in the county. The engine-house proper—that which holds the pumping-engine—is a magnificent specimen of the Cornish engine house, and the stamps are capable of—have done in fact—splendid execution, and are of the most modern (Mr. Husband's) invention. When the alteration in the directorate took place the other day it was hoped an end had come to unpleasantness, to carping criticism, and financial complaint. But has it?

A PETITION for the winding-up of the Owen Vean and Tregurtha Downs Mines (Limited) has been presented in the Stannaries Court, and will be heard on Tuesday, the 19th inst.

THE pumping and winding engines at South Roskear Mine will be sold on the 19th of June, at Camborne. They are described as being in excellent condition, and to be sold without reserve.

At Carn Brea the 310 Highburrow west still continues to improve. The agents have started to drive the 200, east of Highburrow west, under the 187, where a good lode was intersected five weeks since, which lode yielded 1½ cwt. to the ton of stuff. From the 200 there has to be driven a distance of 11 fathoms to intersect the lode. By boring-machine the speed will be at the rate of 8 fathoms per month. If the lode be cut—as expected—there will be ground to work on for three-quarters of a mile. Success is generally hoped for by all mining people.

AFTER all, it is currently reported that at West Frances meeting, on Thursday next, no profit—or if profit, a small one—will be shown. At the last account the expectations were that there would be a profit, and, moreover, a respectable one on this occasion. We hear, however, that although there was a profit of some 800l. on the first eight weeks, matters have not gone so smoothly since, the water having got into the bottom, and to a material extent interfered with the returns. However, no provision has been made for a call.

WEST Poldice, recently purchased by several gentlemen, and which it is announced has since improved, is to be brought out by a company.

THE present debit balance against West Seton is 4000l.

NEVER, we are informed, since the connection of Captain Craze with the mine, has South Frances looked so well as now. Since the meeting an improvement has taken place throughout the mine. The bottom of Pascoe's shaft is reported worth 55l. per fathom. The bottom is now 7 fms. below the 236. The 236 and west is worth 18l. per fathom, a decided improvement. The winze going down 20 fms. west of this, from the 226, is of the excellent value of 60l. per fathom. The loss at last account was some 4000l., and no loss is expected at the meeting on June 18.

THE shareholders of the United Mexican Mining Company, after very many years of patient waiting, seem at last within "measurable distance" of a dividend. The accounts submitted to the shareholders, at their meeting, on Wednesday, showed cash in hand 5000l., which, with 4000l. for arrival, makes 9000l. Certain payments have to be made out of this, and as the directors do not desire to pay a dividend of less than 2s. 6d. per share they propose to wait till the receipt of further remittances from the manager enables them to call the shareholders together for the special purpose of declaring a dividend of that amount. The satisfactory statement was made that the San Cayetano Mine is improving in the lowest workings.

THE very full and clear explanation given by the Chairman of the Rio Tinto Company to the shareholders at the meeting, on Tuesday last, must have fully satisfied everyone that the reduction in the dividend was not necessitated by any falling off in the productiveness of the mine. The quantity of ore in reserve seems to be something enormous, as may be judged by the fact that, as stated in the report of the directors, should the extraction amount to even 1,500,000 tons per annum, such an output would make but little impression on the resources of the mine for many years to come. But this mine, like all other metalliferous mines, has suffered from the unprecedentedly low price of copper. The able board of directors in this country, and the experienced officials at the mine, are entitled to the thanks of the shareholders for having produced the satisfactory results they have in the face of such unfavourable conditions.

SOME discussion has taken place at Camborne this week consequent on the posting of placards to this effect—"400 men and boys required for a colliery in the North of England. Wages paid weekly. Price for getting large coal, 1s. 3d. per ton; small coal, 6d. At this price men earn from 5l. to 8l. per month according to the inability. Day labourers in the mine are paid from 3s. 3d. to 4s. per day. Boys' wages from 1s. 4d. to 2s. 3d. per day. Their fares will be paid to the work. For further particulars, &c." This does not state whether or not the men and boys are required because of a strike. However, although for Cornish miners the wages are tempting, we think few will venture to agree to go north, because of a former incident. Then men had money advanced them for preliminary expenses, and upon arrival in the collieries they found the work so different to that to which they had been accustomed in Cornwall that the majority beat a precipitate retreat.

It having been announced that Mr. R. Balil Brett, M.P., would offer himself as a candidate for the Mining Division of Cornwall, the *West Briton* is in a position to state that Mr. Brett has no present intentions whatever as regards a Cornish county constituency. Should it happen that the candidature of Mr. Vivian proved unacceptable (which is very unlikely) to the Liberal Associations of the Camborne Division, Mr. Brett would probably consider himself free to listen to any proposals that might be made to him.

DR. FRANKLAND has intimated his intention to resign the Professorship in Chemistry in the Normal School of Science and Royal School of Mines at the end of the current session.

A MEETING of Wheal Metal and Flow is called for Thursday next at the offices, when a call will be made.

A TELEGRAM from the Venezuela-Panama Mine on the 4th inst. advises a shipment of from 526 to 550 ozs. of gold and from 2351 to 2375 ozs. of skimmings. This small remittance is explained by the continuation of drought and the absence of all water supply, which has rendered impossible further operations beyond the three days' work reported in the last mid-monthly telegram.

WE hear that whilst engaged in blasting the cliffs of blue elvan at the Black Rock, near Lelant Ferry, West Cornwall, for road purposes, a tin lode of fair promise has been discovered. Practical men have specimens.

ALTHOUGH, as we announced last week, the "cream-pot" in St. Just United has fallen off in value in the yield of tin, it is reported that the "old bal" lode has improved. A number of men have been discharged.

THE New Potosi Company have received the following telegram from the mines: 551 to 575 tons of quartz milled; 501 to 525 ozs. of gold remitted; 30 stamps running; 12 days' full work.

THE gold returns from the Pestarena United Mines for the month of April were as follows:—From Pestarena District 334 ozs. 13 dwts. 12 grs. from 498 tons of ore, equal to 13 dwts. 10½ grs. per ton. Val Toppa, 226 ozs. 10 dwts. 8 grs. from 415 tons, equal to 10 dwts. 21½ grs. per ton. Total, 561 ozs. 3 dwts. 20 grs., obtained from 914 tons of ore amalgamated, showing an average equal of 12 dwts. 6½ grs. to the ton.

THE North Mexican Silver Mining Company (Limited) have received the following cablegram from the mines:—"Cusihiurichie, May 2, 1885.—Everything proceeding smoothly. Most satisfactory progress. Splendid assay results of ore."

THE whole of the machinery and effects at the Wheal Jane mine will be sold on Thursday next by Mr. W. T. Davey, of Redruth, all without reserve, except the engines and boilers.

ALLOTMENT letters for over 20,000 shares in the Lake Superior Copper Company (Limited) were posted on Monday, and applications are still coming in.

DEVON Great Consols have been in demand during the week, owing to the firmer tendency of copper, and to the expectation of a more favourable report and statement of accounts, to be presented at next meeting of shareholders on the 20th inst.

DOLCOATH have been in demand during the week. The mine is said to be looking very rich at the bottom levels.

At Drakewalls the lode in the shaft continues worth 12l. per fathom, and the new north lode at the 50 fm. level is worth over 7l. per fathom.

At Leadhills the bottom level driving south continues to look well, worth about 5 tons per fathom.

VAN shares have advanced, owing, it is reported, to a good discovery at the western part of the mine.

WHEAL Crebor shares have risen this week. The last sale of copper ore, it is stated, will leave a good profit, and a dividend is expected at the next meeting.

EAST Blue Hills shows an improvement. There is a lode in the shaft—20 fathoms below the deep adit—10 ft. in thickness, and it is reported that 3 ft. of such width yields almost 1 cwt. of tin to the ton.

ROMAN Gravels have been in demand owing to an important discovery in the 125 south, where a new division of the Roman lode has been cut into, and the driving north and south together is valued at 4 tons per fathom. This, it is considered, is a most important new feature in the future development of the mine. The half-monthly sale of lead ores this week (125 tons) realised 938l. 2s. 6d.

ON Thursday 926 tons of copper were sold at Redruth, containing 64 tons 6 cwt. fine, realising 2286l.; average, 2l. 9s. 6d.; produce, 7; standard, 75l. 3s., stationary. Mellanear sold 610 tons, 974l.; Levant, 141, 740l.; South Tolarne, 75, 276l.; West Seton, 72, 36l.; Wheal Comfort, 20, 40l.; North Busy, 10, 15l.

THE adjourned extraordinary general meeting of the Kit Hill Great Consols Company (Limited) will be held at the City Terminus Hotel, on Thursday, the 21st inst., for the purpose of receiving the report of the committee of enquiry appointed at the meeting of the 25th February last, and of passing such resolutions as the meeting may deem expedient. At the conclusion of the general meeting another meeting will be held to consider, and if deemed advisable, to pass a special resolution for the voluntary liquidation of the company, and for the appointment of liquidators.

THE directors of the Lisbon-Berlyn (Transvaal) Gold Fields (Limited), have received a telegram announcing the first shipment of 214 ozs. of gold, value 800l., and a second shipment on April 16 of 136 ozs. of gold, value 500l. The board have also by mail received advices that the hydraulic working is proceeding with vigour, and that the mill will be completed and will commence crushing this month.

VIOLETA Gold Placer shares have been in demand on receipt of news from the manager at the mines that every pan of earth washed shows visible gold plentifully. The works are being vigorously pushed forward, and the new sluices will be in place, and fully employed in a few weeks. One of the directors leaves for the mine to-day.

THE Bishwell Colliery, at Swansea, will be sold by Mr. Leeder, at Swansea, on the 19th inst. It comprises mines under 460 acres, held under three leases, each having a considerable period to expire. The colliery is only 6½ miles from Swansea port and Llanelly, and has ample siding accommodation with the Great Western and North-Western Railways. The working effects may be purchased at a valuation.

THE remarks of Messrs. Watson Brothers on the Dolcoath financial mismanagement, in another column, so accurately represent our views, and those of mining shareholders generally, that to further dilate upon the matter appears to us superfluous. Those who are agitating for a change, which will save Dolcoath shareholders a "little income" yearly, will do well to actively support Mr. Edward Heard, and, at all events, not permit the subject to be lost sight of.

IN respect of Botallack, once famous for its riches, and which less than two years since was offered for sale, no purchase being effected, it is said that a good extent of paying ground has been opened up near the Mineral shaft. It is also stated that the workings above the deep adit in the old mine appear promising for tin. The adventurers in this mine, mostly local people—the share list has of late been decreased by reason of relinquishments—eminently deserve a renewed period of success.

Now, placing side by side the two policies adopted in the application of the Limited Liability principle to Cornish mining when undertaken by outsiders, and by Cornish people themselves, we will quote, as antidote to the foregoing, the case of Wheal Uny and East Uny. Having, in the journalistic sense, "anticipated all contemporaries" in saying Wheal Uny purchasers had acquired East Uny, so as to bring out the two concerns as one, under the Limited Liability system, we are able to supplement the information—briefly telegraphed—of last week. Here there is to be no promotion money not to the extent of l. Burdened with a heavy debt, the mine suddenly inundated with water, all the most promising points shut off from development, and a large number of shares relinquished, Wheal Uny shareholders saw there was nothing before them but a resuscitation of the company. And there is every reason to believe this will be accomplished. Literally an indispensable adjunct to the further prosecution of Wheal Uny, East Uny has been purchased, and the two mines, as one sett, will forthwith be offered to the public. But in this way—that the shareholders in the Old Wheal Uny Company will have the first chance of subscribing; then the investing public will be welcome to join—to join, and know perfectly well, be the capital what it may, that the whole will, if necessary, be expended on the exploration of the mine. That the money will go in ways foreign to the promotion of the mine must not be believed by anyone. The bottom of the shaft here holds out promises of success in the immediate future. We have the best of reasons for believing that the Messrs. Watson have the first refusal of launching the mine. And this, may be said, that a firm with a more honourable record could not be found.

(Continued on Page 534.)

2/		3/		Issued, Shares.		
		130000	10	Agria (L)		
		80000	20	Anglo-Egyptian Banking (L) ...		
¾	¾	40000	40	Bank of Australasia		
¾	1½	10000	10	Bank of British Columbia		
6s.	8s.	20000	50	Bank of British North America		
		12 00	25	Bank of Egypt	¾	
		15000	20	Bank of New South Wales		
		100000	10	Bank of New Zealand		
1¼	2¼	32000	25	Bank of South Australia		
		20000	50	Bank of Victoria		
¾	¾	40000	20	Chartered of Ind., Aust., & China		
¾	¾	30000	25	Ch. Merc. of Ind., Lond., China		
		100	100	Colonial		
¾	1	40000	25	English Bk. of Rio de Janeiro (L)		
1/8	3/8	60000	25	London and River Plate (L)		
1/8	2/8	60000	7	London and San Francisco (L)		
1/16	3/16	130000	80	London Chartered of Australia		
1/16	3/16	100 100	10	National Bank of N. Zealand (L)		
3s.	5s.	30000	10	Queensland National (L)		
		40000	100	Trand., of South Africa (L)		
7s.	9s.	60000	75	Union of Africa		

Mining Notes.

THE secretary of the Montana Company (Limited) announces the following telegram received from the manager at the mine, dated May 4, 1885:—"During April the mill worked 50 stamps—28 days—crushing 6210 tons—yielding \$87,012. Working expenses \$28,000. The above yield includes the 'clean-up,' and averages \$33.33 per ton. Mr. Stewart Pixley arrived at the mine on April 23, and Mr. R. M. Brereton (the recently-appointed general manager) will arrive there this week. The directors expect a remittance of about \$50,000 from the April work."

We are informed, on authority, that the few London gentlemen who have secured, and are working, Wheal Camborne (which adjoins Dolcoath) believe they have a prize. It is said there are thousands of tons of arsenical mundic underground broken—broken when there was no market for the article—and that the stuff is valued at from 5*l.* to 7*l.* per ton. The mine is drained to a comparatively great depth by Dolcoath. No offer has really been yet made to Dolcoath for the Stray Park part of the "grand old mine."

It is a pleasure to hear of the improvement in Blue Hills Mine. The fact that the total tin sales for 16 weeks were 20½ tons, and that of this quantity 7½ tons were raised in the last four weeks speaks for itself. The mine (as our telegraphic report last week showed) if the past month's returns continue will pay costs. The lode in the 66 end is worth 20½ per fathom, and the stope in the back of the same level is of the value of 24½ per fathom. There is a great extent of unexplored ground ahead of this level, and the lode is standing whole to surface. Mr. J. C. Daubuz, the Chairman, does not anticipate a loss for the current 16 weeks.

The Board of Trade Returns for the month of April last, published on Thursday, show most unfavourable results, notwithstanding the general desire to complete and push off orders for fear of war. The month was on a par with that of last year in respect of the number of Sundays and the Easter holidays, so that the results are unaffected. Exports of British and Irish produce were valued at 16,394,000*l.*, or a decrease of 12½ per cent., while the imports were 33,321,000*l.*, or an increase of nearly 12 per cent. At the same time the reshipments were 5,576,000*l.*, showing an increase of 12½ per cent. The latter is satisfactory as relieving stocks here in the face of increased imports. For the four months the exports were 69,535,000*l.*, a decrease of 9½ per cent., and the reshipments 20,031,000*l.*, a decrease of 3½ per cent.

All classes of exports for the month show a reduction in particularly manufactured articles, which equals over 13 per cent. Of imports, the increase has been chiefly in edible articles and raw materials. The increase in corn is 50 per cent. value, the increase as regards wheat being as much as 88·3 per cent. in quantity and 72·4 per cent. in value. Dutiable articles also show an increase; but the chief feature is the great augmentation in deliveries for consumption, in anticipation of the Budget proposals, tea showing an increase of no less than 165 per cent.; coffee, 33 per cent.; spirits, 16·6 per cent.; and tobacco, 116½ per cent. Among the reshipments there is a decrease in all the principal articles, except indigo, wool, and tin, which show an extensive increase, and with the general improvements in less important items accounts for the greater total. The following tables give particulars for the month, with regard to metals, &c., which indicate an increased import, with a smaller export at lower values:—

	IMPORTS.				
	Quantity.		Value.		Increase or decrease.
	1884. Tons.	1885. Tons.	1884. £	1885. £	Quan. Value. Per cent.
Copper ore	7,898	12,597	86,135	107,618	59.5. 24
Regulus and precipitate	5,023	8,786	152,352	237,485	74.9. 50
Unwrought & part wrought	2,560	4,474	146,812	238,099	75. 49
Lead, pig and sheet	9,399	8,277	106,327	88,635	119. 17
Tin in blocks, ingots, bars, or slabs	1,979	2,306	166,761	181,337	18. 9
RE-SHIPMENTS.					
Copper	784	364	49,398	15,056	53.5. 87
Tin	976	1,309	83,414	102,532	23. 9
EXPORTS.					
	Quantity.		Value.		Increase or decrease.
	1884. Tons.	1885. Tons.	1884. £	1885. £	Quan. Value. Per cent.
Copper, unwrought, in ingots, cakes, slabs.	1,834	1,470	119,922	73,336	19. 27
Wrought	1,693	1,544	121,597	95,412	8.7. 45
Mixed or yel. metal ...	1,364	1,504	76,924	71,540	8.8. 87
Total	4,911	4,519	309,443	240,297	— —
Lead, pigs, sheet, pip- ing, & manufacture	2,247	2,646	29,591	32,470	17.7. 9
Tin, unwrought	393	356	34,562	31,423	9. 8
Coal and coke	1,903,333	1,852,694	880,324	881,067	75.8. 21
Iron and steel	305,949	264,400	2,138,319	1,863,371	13. 13

* Denotes Increase.

WEST CORNWALL MINERS' HOSPITAL.—The annual report of this valuable institution, which has just been published, shows that during 1884 217 patients were admitted—an increase of 10 on the previous year. The cost of maintenance was 1400*l.*, of which the committee paid 622*l.*, leaving 777*l.* to be met by Lord Robartes. The income, exclusive of legacies, amounted to 618*l.*, and included subscriptions, 337*l.*; contributions of miners at South Condurrow, Wheal Grenville, Wheal Basset, Pednandrea, and East Pool, 101*l.*; and Hospital Sunday Collections, 136*l.* The following legacies were received during the year:—From the executors of Mrs. Williams, late of Caerhay Castle, 1000*l.*; from the executors of Mrs. Tabb, late of Redruth, 25*l.*; from the executors of Mr. J. G. White, late of Camborne, 45*l.* The value of this institution to the neighbourhood cannot possibly be measured. Its main supporter is, of course, Lord Robartes, to whom not only those who derive relief within its walls, but the inhabitants of the district generally, owe a deep and lasting debt of gratitude. Another very liberal supporter of the institution is Mr. Basset, of Tehidy, who subscribes the munificent sum of 108*l.* per annum. In Mrs. Basset, too, the inmates have a true friend.—*West Briton.*

CORNISHMEN IN AMERICA.—The *Butte Daily Miner* of the 7th ult. gives an account of a terrible accident at the Magna Charta Mine, Montana, U.S., by the falling of a hanging-wall of ground at the 100 ft. level. A miner named David L. Davis, a Welshman, was killed on the spot. John Penhale, a native of Illogan, and a resident there a great many years, was injured about the head and face. Samuel Mallow, of Truro, received similar injuries. John Shovill, native of Linkinhorne, and married to Miss Annie Bartle, of Church-street, Camborne, about four years ago, was also buried in the debris, but was unhurt. The two injured men were taken to the Alice Hospital, belonging to the mining company, of which Mrs. Sarah Bartle, late of Church-street, Camborne, is the matron. Their injuries are reported to be of a serious but not fatal nature. About seven loads of debris fell on the men. Shovill owes his escape from death by being in the rear of the party.

In shares of miscellaneous companies the principal alteration is a decline in oil companies shares, owing to the fall in the price of American petroleum. Home Mines Trusts are 12s. 6d. to 13s. 9d.; Lawes' Chemicals, 4 to 4½; Nobel's Explosives have improved from 15½ to 15½; Shoreham Cement offered at 17s.

EDINBURGH.—Messrs. THOS. MILLER and SONS, stock and share brokers, Princes-street, write under date May 6:—The present state of the market is in marked contrast with that which prevailed week ago, a strong and well maintained reaction from the recent depression having set in. Home railway ordinary stocks have advanced all round from about 2 to 5 per cent. Preference and debenture stocks now show greater firmness. Canadian and American stocks are much depressed. The only change in bank stocks is a reduction of 20s. in British Linen. In Insurance shares, North British and Mercantile have improved 7s. 6d., Scottish Union and National A have receded 6d., Scottish American Investment have declined 1s. Canada North West Land 3s. 3d., Prairie Cattle shares have risen 4s., Swan Land and Cattle 1s. Rio Tinto shares have risen 5s., Mason and Barry have fallen 10s., Tharsis have risen 1s. 6d., Niddrie and Benhar "B" 1s. 3d. Oil shares have generally been weak. Broxburn have fallen 7s. 6d., Burntisland 13s. 9d., Holmes 3s. 6d., Pumperston 7s. 6d., West Lothian 2s. 6d., Linlithgow changed hands at 5s., and 10s. premium. Creswell Cattle shares have been offered at 3s. discount. Australasian Investment shares are wanted at 1s. 3d., and offered at 2s. 6d. premium.

Messrs. STRAUSS and Co., London, write under date April 30:—

	March 31, 1885.	April 30, 1885.	April 30, 1884.
Straits and Australian, spot	8,253	5,040	5,800
" " landing	983	640	308
Straits, afloat	1,327	1,344	1,685
Australian afloat	1,265	795	1,042
Banca, on warrants	1,794	1,458	921
Billiton, spot	1,357	1,251	1,304
" afloat	828	1,428	1,137
Australian tin in Holland	—	—	—
Stocks in America, including quantity afloat	830	1,190	1,910
Total	13,637	13,654	14,107
Prices of Straits and Australian	\$73 5	\$80 0	\$84 15
Deliveries during month in London ..	1,481	1,719	1,347
" " Holland	450	802	655
Total	1,931	2,221	2,003

Shipments during the month from Straits to London, 1500 tons; from Australia to London, 425 tons; from London and Holland to America, 815 tons; from Straits to America, 275 tons; from Australia to America, 100 tons. Banca in Trading Company's hands and afloat, 3842 tons.

Messrs. HENRY R. MERTON and Co., Leadenhall-street, write under date April 30:—

Chilli bars Liverpool and Swansea	1885.
Chilli ingots, Liverpool and Swansea	28,263
Chilli ores and regulus, Liverpool and Swansea (fine)	1,980
Other stuff (fine), Liverpool and Swansea	6,539
London, Foreign copper, chiefly Australian and Landing	5,452
Havre and Bordeaux, Chilli and other bars	1,000
Havre and Bordeaux, other copper	2,040
Adopt from Chilli (advised by mail and cable):	
Ores and regulus (fine)	1,285
Bars and ingots	6,604
Adopt from Australia (advised by mail and cable) :-	
Fine copper	1,081
Total	54,384
Price of Chilli bars, per ton	£43 5 0

COPPER.—Messrs. RICHARDSON and Co. write under date May 1—

The stocks of foreign copper produce remaining here unsold this day are:—				
	Tons—Ore.	Regulus.	Copper.	Precipitate.
Chilian	3,580	1,749	3,854	—
Cape	1,335	—	—	—
Quebda	4,278	11	—	—
Spanish	1,669	—	—	1,853
Portuguese	—	—	—	590
Italian	645	—	—	—
Australian	242	—	—	—
Total	11,847	1,760	3,854	2,443

Equivalent to about 100 tons in fine copper. There has been no public ticketing since Dec. 4, 1883, until that which took place on Tuesday, April 21, when 1531 tons of ore, @.80, giving an average produce of 11½ per cent., realized 7s. 2½d. per unit. The private sales during the past month consist of 4 tons Cape ore at 3s. 3d. per unit; 219 tons Bolivian regatas, at 8s. 1½d.; and 317 tons at 3s.; 87 tons Mexican and 177 tons Bolivian regatas, at 8s. 9d.; and 43 Rio Tinto ore, at 3s. 6d. per unit. On 9d. April, 1891, Chili charters for the second half of March were reported as 1230 tons fine, 900 tons bars and ingots, and 50 tons furnace material for England, and 250 tons bars for the Continent. For the first half of April 1930 tons fine, 750 tons bars and ingots, and 50 tons in furnace material for England, and 1100 tons bars for France.

The following table, showing the highest and lowest prices and dividends paid during the past six years on the following companies, together with the highest and lowest price of copper over the same period, has been compiled by Mr. S. N. CHALLONER, stock and share broker, 62, Grey-street, Newcastle-on-Tyne :—

THE THARIS SULPHUR AND COPPER COMPANY (LIMITED).						
Year.	Dividend per cent. per annum.	Price of shares.		Price of copper. Chili bars.		
		Highest.	Lowest.	Highest.	Lowest.	
1879	10½	31½	21½	66½	53½	
1880	20	34½	32½	73	56½	
1881	25	48½	35	71	58½	
1882	27½	45½	36	71	63½	
1883	27½	7½	5-5-16	64½	58	
1884	20	7	5½	58	47½	

1879	1	66	53
1880	25	73	56

1880	12	12	18	15	73	58
1881	12	12	18	15	71	58
1882	12	12	18	15	71	58
1883	12	12	18	15	71	58
1884	8	13	9-16	8	58	47

PANULCILLO COPPER COMPANY.

1879	3	5	1-16	1	66	53
1880	9	6	9-16	3	73	56
1881	10	7		4	71	58
1882	15	7		5	71	58
1883	12	7		5	64	58
1884	—	5	2 11-16	5	69	47

Year.	Dividend per cent. per	Price of shares.		Price of copper.	
		Highest.	Lowest.	Highest.	Lowest.

	highest.	lowest.	highest.	lowest.
1879	5	10	24	66
1880	8	19	12	73
1881	14	28	19	71
1882	14	31	22	71
1883	14	25	18	64
1884	8	21	13	58

GOLD AND SILVER.—Messrs. **FITZLY** and **ABELL** write under date May 7:—Gold: With no export demand, all arrivals have been purchased by the Bank of England. The amount so bought is 455,000z., and 6000z. has been sold to the South American market. But the rate was to-day lowered to 3 per cent., having stood at 3½ per cent. since March 19. Silver rose at the end of last week to 50d., but on Monday, owing to lower rates ruling in India, the price relaxed to 49½d., and on Tuesday, with an arrival of 53,000z. from Chili and 35,000z. from River Plate, business was at a complete standstill, in consequence of the statements in Parliament the evening before; but yesterday, when the India Council announcement of no allotment of bills or transfers was made, a sudden spurt was given to silver, and the recent arrivals were absorbed at 50½d. The Hyderabad takes 5000z. to Calcutta, Bombay, and the Rome 61,500z. The Hydaspes takes 5050z. to Calcutta.—Mexican Dollars: With no arrivals to report, we are unable to quote a price for these coins. The Rome takes 45,540z. to China.—Exchange: No allotments were yesterday made by the India Council, and the amount for next week is reduced to 10 Lakhs. Since last week there have been sold:—May 1: Transfers on Bombay, Rs. 2,50,000 at ls. 7½d.; Rs. 2,50,000 at ls. 7½d.; Rs. 2,00,000 at ls. 7-21-3d. May 6: Bills on Calcutta, Rs. 19,000 at ls. 7½d. The exchanges to-day are:—Bombay, ls. 11½d.; Calcutta, ls. 11½d.; Hongkong, 10s. 11½d.; Shanghai, 1s. 11½d. Quotations for bullion: Gold, Bar gold, fine, 77s. 9d. per oz. standard; bar gold containing 20 dwts. silver, 77s. 10½d. per oz. standard.—Silver: Bar silver, fine 49½d. per oz. standard; bar silver, containing 5 grs. gold, 50½d. per oz. standard; cake silver, 53½s. 4.; quicksilver, 5s. 10s.; discount, 3 per cent.

CORNISH MINESWARM MARKET.—Mr. S. J. DAVEY, mine shareholder, Redruth, writes under date May 7:—Dolcoath shares have risen 1½, East Pool ¾, and East Blue Hills ¾ this week, but Wheal Agars have fallen 1½, and West Frances ¾. Business has been generally slow. To-day there is very little doing except in Dolcoath shares. Following are prices:—Blue Hills, ½ to ¾; Carn Brea, 3½ 35; Cook's Kitchen, 8½ to 10½; Dolcoath, 68½ to 69; East Blue Hills, 7½ to 7½; East Pool, 41 to 42; Killifire, ¾ to ½; New Cook's Kitchen, ½ to ¾; New Killy, 1 to 1½; Pedn-ar-dra, ¾ to ¾; South Condarrow, 7½ to 8; South Wheal Agars, 8½ to 9½; West Agars, 8½ to 8½; West Basset, 2½ to 2½; West Frances, 8½ to 9½; West Grenville, 16½ to 16½; Polbreen, ¾ to ¾; West Wheal Bston, ¾ to ¾; Wheal Agar, 16 to 16½; Wheal Basset, 6½ to 7½; Wheal Grenville, 9½ to 9½; Wheal Killy (St. Agnes), 9s. to 11s.; Trevaunance, 2½ to 2½; Polberru, 2 to 2½.

—Messrs. ADDOTT and WICKETT, stock and sharebrokers, Redruth, write under date May 7:—A fair amount of business in the leading shares at advanced prices. Dolcoath and East Pools having commanded special attention. Quotations herewith:—Blue Hills, $\frac{1}{2}$ to $\frac{3}{4}$; Carn Brea, $\frac{3}{4}$ to $\frac{3}{4}$; Cook's Kitchen, 10 to 11; Dolcoath, 63½ to 69; East Blue Hills, $\frac{1}{2}$ to $\frac{3}{4}$; East Pool, 41 to 41½; Killfrench, 9s. to 10s.; New Kitty, $\frac{1}{2}$ to 1; Polberr, 2 to 2½; South Condourrow, 7½ to 8; South Crofty, 3 to 3½; South Frances, 8½ to 8¾; Tinoroff, 5½ to 5; Trevaunance, 2 to 2½; West Bassett, 2½ to 2½; West Kitty, 8 to 8½; West Polbren, $\frac{1}{2}$ to $\frac{3}{4}$; West Frances, 9½ to 10; West Seton, 3½ to 4; Wheal Agar, 18 to 16½; Wheal Bassett, 6½ to 7; Wheal Grenville, 9 to 9½. Tin, 31.

— Mr. M. W. BADEN, Liskeard, writes under date May 7:—The mining market has shade firmer on improved prices for tin and copper, and prospect of peace, with a good enquiry for several low-priced progressive mine shares. Blue Hills and East Blue Hills chiefly in demand, on important improvements. Blue Hills, 10 to 11½; working as at present, 10½ to 11½. Subst. — Kidnapper United, ¾ to ¾; Blue Hills, 10 to 11½. Darn Bree, 13¼ to 13½. Cornhill United, 10 to 10½; Dolocath, 68½ to 69; Devon Consols, 13½ to 14½; East Blue Hills, ¾ to ¾; East Caradon, ¾ to ¾; East Pool, 41 to 41½; Glasgow Caradon, ¾ to ¾; Gunnissale (Clitters), ¾ to ¾; Killfret, 2s. to 2s.; Marke Valley, 7s. to 2s.; New South Caradon, 1s. to 1s. 6d.; Pein-and-area United, ¾ to ¾; Phoenix United Mines, 1¼ to 1½; Prince of Wales, 3s. to 4s.; South Caradon, ¾ to ¾; South Cornwall, 10 to 10½; South Creber, 4s. to 4s. 6d.; West France, ¾ to ¾; West Hill, 10 to 10½; West Killy, 8½ to 8½; West Phoenix, 3s. to 4s.; Wheel Agar, 1s. to 1½; Wheel Bassett, 6½ to 7; Wheel Creber, ¾ to 1; Wheel Grenville, 9 to 9½; Wheel Killy, ¾ to ¾.

— Mr. JOHN CARTER, mine shareholder, Camborne, writes and dates May 7: The Cornish share market has been firm this week. The tin standards are expected to be advanced to-day. Closing quotations are as follows:—Carn Brea, 3½ to 3¾; Cook's Kitchen, 10 to 10½; Dolcoath, 68½ to 69½; East Pool, 40½ to 41; Killfifteen, 8s. to 9s.; New Cook's Kitchen, ½ to ¾; New Kitty, 7½ to 1; Poldan-drea, ¾ to ¾; South Condurrow, 7½ to 8; South Crofty, 3½ to 3¾; South Frances, 8½ to 8¾; Tincroft, 6 to 6½; West Basset, 2½ to 2¾; West Frances, 9½ to 10; West Kitty, 8½ to 8¾; West Pevor, 4½ to 5; West Preston, 3½ to 4; West Agar, 16½ to 16¾; Wheel Basset, 5½ to 7½; Wheel Grenville, 9 to 9½; Wheel Kitty, 14½ to 15. At one o'clock tin was 81.

MANCHESTER, Messrs. JOSEPH R. and W. P. BAINES, stock and share brokers, Queen's Chambers, Market-street, write under date May 7:—When we wrote last Thursday the markets were in a state of extreme gloom and despondency, under the influence of extreme pessimist views being taken of the situation, prices being at or very near the lowest point reached lately. Such was the condition or appearance of things, that it required a large degree of pluck for any operators to buy stocks, inasmuch as then there appeared little or no prospect of amelioration of the state of the Afghan business, but those who had the courage to buy will, doubtless, have been amply rewarded for their temerity. Friday (as usual with 1st May), was a holiday, and when business opened on Saturday the announcement of the agreement to arbitrate had been made, and prices opened at a substantial advance all round, an advance which, differing only in more or less rapidity, has been continued all week up to to-day, when some falling-off has occurred, consequent, doubtless, on the limitation of the handsome profits which had become obtainable, sufficient to satisfy those who like to realise a good thing, and look round for another. As was reasonable to expect, the speculative stocks (which had come in for depreciation to prices almost as low as they might have been expected to see if the worst had occurred) have rebounded most rapidly, and here some extraordinary recoveries in value—even after the relapse of to-day—are to be chronicled. On the other hand American and kindred rails, who were expected to reap benefit from rise in price of produce exported to America, have fallen as much as they rose yesterday afternoon and to-day have shown a little better tone. Consols and India Four Per Cent. stock have responded quickly to the improved aspect of affairs, and mark rise of 3½ and 2 respectively. Foreign loans present some remarkable recoveries, foremost amongst which come Egyptians, in which the advances are as follows:—Preference 8½, Daira Sanieh 5½, and Unified 4½. Italians, too, mark 4½ up, and most others are improved, more or less, from ½ to 5. Colonial stocks are all better also, the improvement ranging from 1 to 2 per cent. on some, and 3 to 4 on others. The extent of the recovery is, however, of no extent worth naming. As may be supposed, business has been active in the foremost markets, and the miscellaneous series have also produced a fair number of dealings, prices herein ruling steady, or better on the whole.

COAL, IRON, &c., AND MINING.—Business almost nil, the only marking being one lot of Bolckow's Preference, Cammell's, and Telegraph Construction and Maintenance better. Far Gates, $2\frac{1}{2}$; Staveley A, $\frac{1}{4}$ to $\frac{3}{4}$; and Paisley, $\frac{1}{4}$ to $\frac{1}{2}$ lower. Rio Tinto, after receding, have come back to figures ruling a week ago.

COTTON SPINNING, &c., market lifeless, and change in figures is again adverse, though small.—TELEGRAPHS AND TELEPHONES.—Not much doing. Easterns better; other changes unimportant.—CANALS.—Bridgewater Navigation distinctly higher, also Surrey; Lancaster down 3. — MISCELLANEOUS.—Bryant and May's have recovered, and mark a rise of 1 on the week. Hudson Bays $\frac{1}{4}$ better. Cincinnati, Bureau of Indian Affairs, American Commission and Texas land agents.

better; Liverpool Tins higher; Manchester Carriage and Trams turn easier. RAILWAYS, influenced by pacific prospects, have sprung back rapidly from last week's depression, the attitude of "bears" getting in stock approaching the scramble of "bulls" and then. The issue is good all round, but especially for the A.C.P. which has passed unscathed. Scottish and the heaviest lines have also participated freely in the advance. This continued till announcement of reduction of Bank rate, since which prices have eased, and the fall ranges from 1/4 to 2 since then. In Canadian Trunk traffic totals 11,123, decrease, and this by no means helped prices from their downward movement. Americans have suffered a smart fall in some cases, the decline being severe; but, on the whole, market now shows an improvement on the lowest points. Mexican Rails are recovering somewhat against tidings of rumours that only the First Preference is to get full dividend, on which, figures fell away, particularly for the Second Preference.

NEWCASTLE-ON-TYNE.—Mr. S. N. CHALLONER, stock and share broker, 62, Grey-street, writes under date May 7:—Barrow Steel Ordinary, $5\frac{1}{2}$ to $5\frac{3}{4}$, $\frac{1}{8}$ lower; ditto, Six per Cent. Preference, $8\frac{1}{2}$ to $8\frac{3}{4}$, unchanged; Bede Metal, 8 to $8\frac{1}{4}$, $\frac{1}{8}$ lower; Bolckow (fully paid), $15\frac{1}{2}$ to $15\frac{3}{4}$, $\frac{1}{8}$ lower; ditto, 12 $\frac{1}{2}$ paid, $8\frac{1}{2}$ to $8\frac{3}{4}$, unchanged; ditto, Five per Cent. Preference, $17\frac{1}{2}$ to $17\frac{3}{4}$, $\frac{1}{8}$ lower; Consett Iron, 19 to $19\frac{1}{4}$, $\frac{1}{8}$ lower; Consett Spanish Ore unchanged, $4\frac{1}{2}$ to $4\frac{3}{4}$; Darlington Iron, 23s. to 25s.; ditto, Seven per Cent. Preference, $3\frac{1}{4}$ to 4; Earle's, 14 $\frac{1}{2}$ to 14 $\frac{3}{4}$, unchanged; Ebbw Vale, $3\frac{1}{4}$ to 4, $\frac{1}{8}$ lower; John Brown, 62 $\frac{1}{2}$ to 63 $\frac{1}{2}$; Palmer A, 23 to 24; ditto, 14 to 15, 1 higher; River Tyne Dry Dock unchanged, $\frac{1}{2}$ dis to par; Sir W. G. Armstrong, after being 140 buyers, are now 137 to 138; Teeside Iron Ordinary remain $\frac{1}{2}$ to $\frac{1}{4}$; ditto, Preference, $1\frac{1}{2}$ to $1\frac{3}{4}$; Tharston, 20s. to 20s. 6d., $\frac{1}{4}$ higher; Mason and Barry, $\frac{1}{4}$ to $\frac{1}{2}$, 1 higher; Rio Tinto, 91 to 92, $\frac{1}{2}$ higher; improved demand for copper Newcastle Water Works stock, 200 to 201, 2 higher; High Gosforth Park remain 9 to 12; Langdales, $2\frac{1}{2}$ to $2\frac{3}{4}$; Lawes Ordinary, $4\frac{1}{4}$ to $4\frac{1}{2}$; ditto, Preference, 10 $\frac{1}{2}$ to 10 $\frac{3}{4}$; Newcastle Chemical, 20s. to 23s.; North-Eastern Bank, 6 $\frac{1}{2}$ to 6 $\frac{3}{4}$; American Linoleum, 38, sellers; German Linoleum, 106, fully-paid, 15 $\frac{1}{2}$, sellers; Badler, B, 12 to $12\frac{1}{2}$, $\frac{1}{8}$ lower.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker

(May 7), writes:—During the past week the markets have been more active, and prices are higher, owing to the announcement by Mr. Gladstone that the Russian Government had agreed to proposals to refer the Penjdeh incident to the arrangement of a friendly power. The money market is also easier, so that if the metal markets would take an upward turn, a purchase above present prices should do well.

In shares of coal, iron, and steel companies prices are steady. Bull's Iron are 3s. 9d. to 5s.; Ebbw Vales, 77s. 6d.; and Steel Company of Scotland, 7½ to 8.

In shares of foreign copper concerns there has been a considerable amount of business done. Tharsis declined to 84s. 6d. ex div., but have now recovered to 94s. 6d. Mason and Barry touched 71. 6s. 3d., and Rio Tinto 71. 16s. 3d.; but both show a substantial recovery, especially Rio Tinto at about 9½; Bratsberg are 10s. to 11s.; Panulicillo, 20s.; and Tocopilla, 2s. to 4s.

In shares of home mine business has been quiet, but the metal markets seem inclined to improve, which will bring more business. Devon Friendships are 6d. to 1s. 6d.; East Wheel Rose, 4s. to 5s.; East Blue Hills, 11s. 2d. to 13s. 3d.; Grangeoh, 5s.; Honey United, 5s.; Prince of Wales, 2s. 6d. to 3s. 6d.; New Cornish, 4s.; New Cornish, 11s. 6d.; Old Shipyard, 4s. to 6s.; Owend Yaw, 5s. 6d.; Par Tin, 17s. to 20s.; Prince of Wales, 2s. 6d. to 3s. 6d.; Standard Lead, 15s. to 20s.; Transvaal, 3s. to 4s.; Van, 16s. 3d. to 18s. 3d.; and Wheel Castles, 3s. to 5s.

In shares of gold and silver mines there has been less business doing. Montanas have improved from 22s. 6d. to 25s. 2d., on favourable reports from the mine. Balkis unaltered at 2s. to 2s. 6d., waiting the long-delayed news from them. Kohlnoers are easier at 3s. 6d. to 4s. 6d. Chile Debutentes wanted. Argenta Filis Silver are at 2s. to 5s.; El Caltio, 50 to 55; Glenrock, 1s. 6d. to 2s. 6d.; Graskop No. 2, 22s. 6d. to 27s. 6d.; Guilaosa, 15s. to 1s. 6d.; El Hillo, 10s. to 12s. 6d.; El Hito, 10s. to 12s. 6d.; El Hito, 10s. to 12s. 6d.; North Block, 20s. to 25s.; La Trinidad, 10s. 6d. to par; Lisbon-Berlyn, 2s. to 4s.; Mackay and Revolution (fully paid), 12s.; Mine Reef, 2s. to 3s.; Ruby

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE UNIVERSAL CONTRACT COMPANY (Limited).—Capital 300,000l., in 100l. shares. The objects of this company are—To construct, execute, repair, and maintain, in any part of the world, railways, tramways, docks, gas, telegraph, and electric works, or works for the supply or use or application of electricity or electric light or power; also to construct and supply (or hire or otherwise) and to repair and maintain rolling stock, horses, &c., machinery, engines, plant, and apparatus, and other things for the equipment, working, and carrying on the business of any undertaking or works above referred to. The subscribers (who take one share each) are—E. A. Harrison-Ainsworth, 23, Martin's-lane; H. Peter Barnard, 107, Cannon-street, E.C.; Claude E. H. Andain, 25, Lancaster-road, Westbourne Park; Samuel Wilkins, 12A, York-grove, Peckham; Raymond T. Linford, 31, Westminster-lane, Piccadilly; Edwin C. Davies, Dulwich; William Wheelon, Devonshire Chambers, Bishopsgate-street.

LORAINE AND CO.—Capital 30,000l., in 10l. shares. Has for its objects the establishing and carrying on the business of consulting engineers, and manufacturers of and dealers in appliances relating to mechanical, physical, and chemical engineering in all present and future developments, and of contractors for the construction, erection, and maintenance of such apparatus and appliances. The subscribers (who take one share each) are—James Watson, Queensferry-terrace, Edinburgh; Charles James, 20, Endwell-road, Brockley; G. M. Stapley, Righton-road, Upper Clapton; H. C. Cornish, 52, Cavendish-square, N.W.; J. C. Clough, 3, Albion Grove, Stoke Newington; H. C. Sheksh, Stratford-on-Avon; T. Beuningfield, Essex Lodge, Natal, South Africa.

THE SAINT LOUIS PARK MILLS AND COMPANY (Limited).—Capital 100,000l., in shares of 10l. Has been established for the purpose of carrying on in the United Kingdom the business of manufacturers of chemical products, paper, mill, and other boards, paper mache pulp, and to buy and sell these and other substances, and all articles made with any such, and also materials capable of being used in their manufacture. The subscribers (who take one share each) are—Martin H. Pirie, 20, Upper Wimpole-street; Alfred L. Pirie, Aberdeen, N. B.; John S. Campbell, 1, Queen's-gate-place, W.; Nathaniel Harris, 41, Pembroke Villas, Bayswater; John Walker, 96, Farringdon-street; George Rolfe, 46, Cannon-street, E.C.; Robert Mossop, Herne Hill.

THE SILVER QUEEN UNITED.—Capital 250,000l., in shares of 25l. The objects of this company are to adopt and carry into effect, as may be mutually agreed upon, the agreement dated April 27, 1885, between James I. Brown of first part, and Francis Huxley of second part, and the Silver Queen United of third part, for acquiring and developing certain mining properties known as the "Los Bronces Animas Nahuilla, San Juan, and Cruzicita, situated in the district or province of Sonora, in the Republic of Mexico, also to purchase, take, or lease any lands, leases, licenses, or grants of lands, mines, or mineral properties, &c., also buildings, plant, machinery, and effects which may be deemed necessary or advisable for the purposes of the company. The subscribers (who take one share each) are—Sydney H. Hynton, High-street, Poplar; H. C. M. Daniel, Elgin-crescent, Notting Hill; Thomas E. Williams, 13, Rumney-road, Surrey; W. J. Thomas, Bedford-road, Tottenham; Thomas G. Shallow, Balham; Gordon Sairs, 9, Lee-street, Poplar; Edmund Harvey, 14, Bedford-road, Tottenham.

THE MOOR STEEL AND IRON COMPANY (Limited).—Capital 65,000l., in shares of 10l. The objects are to acquire the goodwill of business now carried on by Robert Donaldson and others under the style of the Owners of Moor Ironworks, and to acquire or undertake the whole or any of the assets and liabilities of the owners of said business in connection therewith. To carry on all or any of the trades or business of iron masters, iron manufacturers, steel converters, and manufacturers, iron founders, metallurgists, and producers of metals and alloys of all descriptions in crude or manufactured forms. Also colliery and mineowners, &c. The subscribers (who take one share each) are—Robert Donaldson, 26, Renfield-street, Glasgow; William A. Donaldson, 26, Renfield-street, Glasgow; Thomas N. Mackinnon, 26, Renfield-street, Glasgow; J. McLellan, 26, Renfield-street, Glasgow; Charles J. Bayley, Moor Ironworks, Stockton-on-Tees; Arthur J. Dorman, Middlesbrough-on-Tees; Albert De Land Long, Middlesbrough-on-Tees.

THE HALSTEAD PAPER-MILLS (Limited).—Capital 5000l. in shares of 1l. The objects of this company are to acquire, upon such terms as may be agreed, certain leasehold land, buildings and mills, known as the Halstead Paper Mills, situated at Halstead, in the county of Essex; also any part of the assets of the business now carried on at such mills, including the goodwill thereof, and to carry on the said business as may be deemed advisable. The subscribers (who take one share each) are—Alfred Potter, Halstead, Essex; Ernest Reed, Maidstone, Kent; J. Robertson, 38, Connaught-road; G. R. Pimlott, 91, Sturgeon-road; J. A. Noble, 53, Lorrimer-road, S.E.; E. S. Randall, 52, Charles-street, Stepney; H. G. Bailey, 31, Herbert-street, N.

THE HORNACHOS SILVER-LEAD MINING COMPANY (Limited).—Capital 100,000l., in shares of 1l. Established to carry into effect an agreement which has already been prepared, and expressed to be made between "The Hornachos Silver-Lead Mining Company (Limited)" (called the old company), and Henry Richards, the liquidator, of the one part, and the Hornachos Silver-Lead Mining Company (the new company) of the other part; to purchase from the liquidators of the old company all the property of the old company in Spain, together with all goods, chattels, moneys, credits, debts, &c., and generally to purchase, sell, and deal in all minerals and mineral substances derived by mining in Spain; and carry on the business of miners and smelters. The subscribers are—Henry Richards, public accountant, 4, The Sanctuary, Westminster, S.W.; Herbert G. Britten, shorthand writer, Gladstone Villa, Salisbury-road, Walthamstow; 1; Thomas Richard, mining engineer, 58, Lombard-street, E.C.; 1; Edward Penman, secretary to a company, 89, Crofton-road, Camberwell, S.E.; 1; George Heiron, 57, Lombard-street, E.C.; 1; William Henry Barber, shorthand writer, 9, Lamb's Conduit-street, W.C.; 1; Arthur William Trevarthen, clerk, Redhill, Surrey, 1. The number of directors to be not less than three nor more than seven. The first directors to be George Heiron, Richard Jolly, Samuel Loveridge, Frederick Henry Rich, Horatio Campbell Scott, and Thomas Steven. Qualification 250 shares. Remuneration of directors 750l. per annum, to be divided among them as they may determine.

THE LONDON SAWING, STORAGE, AND ADVANCE COMPANY (Limited).—Capital 25,000l., in shares of 10l. To adopt and carry into effect an agreement, dated April 14, 1885, made between Edward George Price, John Lloyd Pierce, and Charles Napier Lawrence of the one part, and Robert Alexander Stewart, on behalf of this company, of the other part; and to carry on the trades or businesses of timber merchants, sawyers, sawmill proprietors, wharfingers, wood stores, general merchants, and commission merchants, in all their respective branches. The subscribers (who take one share each) are—Robert Alexander Stewart, 3, Fen-court, Fenchurch-street, E.C.; timber merchant; Thomas Andrew Stewart, 2, Eliot-place, Blackheath, S.E.; shipowner; Harcourt Willoughby Lightburn, 22, St. George's-square, Regent's Park, N.W.; timber merchant's clerk; John Lloyd Pierce, 27, Clement's-lane, E.C.; timber merchant; Edmund Alexander Oliver, 1, Fern-villas, Birchington-road, South Norwood, S.E.; timber merchant's clerk; William Hutchinson, 6, Buryhill-road, N.W.; shipbroker; Charles Napier Lawrence, 27, Clement's-lane, E.C.; timber merchants. The number of directors to be not less than one nor more than four. The first director and manager to be Robert Alexander Stewart, his remuneration to be determined by the company in general meeting. The remuneration of all future directors to be determined by the company in general meeting.

THE WEST AUSTRALIAN LAND COMPANY (Limited).—Capital 100,000l., in shares of 500l. Established to acquire, on such terms as may be arranged, the benefit of a contract or concession, dated October 25, 1884, and made between the Governor of the colony of Western Australia, acting for and on behalf of the Government and colony of Western Australia, on the one part, and Anthony Horden, of the other part (which contract was made pursuant to the Beverley-Albany Railway Act, 1884), and to undertake the obligations imposed on the contractor by that contract, and to carry such contract into effect; to construct, execute, carry out, equip, improve, work, develop, administer, manage, or control in the colony of Western Australia, and elsewhere, public works and conveniences of all kinds, including roads, streets, railways, tramways, and other ways, docks, harbours, piers, &c.; and to carry on the business of carriers, miners, metallurgists, builders and contractors, engineers, farmers, graziers, shipowners, shipbuilders, merchants, importers and exporters, and buy, sell, and deal in property of all kinds. The subscribers (who take one share each) are—Anthony Horden, 14, Edmund-place, Aldersgate-street, E.C.; merchant; Frederick R. Powell Crowther, 8, Tower Buildings, North Liverpool, merchant; Charles Bethell, 110, Fenchurch-street, E.C., shipbroker; Thomas Henry Wye, 35, Milk-street, Cheapside, shipping and insurance agent; David Kinghorn Weatherly, 1, Fenchurch-avenue, E.C., merchant; Henry David Sinclair, 19, Silver-street, E.C., merchant; John Neill, 42, Poultry, E.C., stockbroker. The number of directors to be not less than five nor more than 12. The first directors to be Anthony Horden, Thomas Wilde Powell, Edward Crowther, Frederick Powell Crowther, Frederick Hovenden, and James Martin. Qualification, one share. Remuneration of directors to be determined by the company in general meeting.

THE TRURO DIVISION IN PARLIAMENT.—"One Who Knows" writes to the *Cornish Telegraph*:—"The candidature of Mr. W. Bickford-Smith is well received by a large body of the electors in this part of the Truro and Helston division; and, indeed, many will hear of no other in preference to him. For a good while he has been the accepted Liberal candidate of the Parliamentary borough of Helston; and it would be most unjust to give the cold shoulder to such a gentleman, unless some paramount reason could be advanced for doing so. Since first he was introduced to us there has been an increasing liking for his acquaintance, and a growing conviction that we shall have to search a long time ere a better man will be found to represent us. In the rising township of Porthleven, too, there is probably no shadow of a chance for any other man that can be brought against him. At the recent Penryn Conference the representatives of the 23 parishes included in the Helston portion of the division, there was an all but unanimous declaration in his favour. In Mr. Bickford-Smith we have a man thoroughly conversant with most or all of the burning questions of the present hour, and who would be prepared to vote upon the subjects of the hour with the calm deliberation of a mature man of business. It is confidently asserted that Mr. Rows (who is known to be immensely popular throughout the Truro and Helston division), will not allow himself to be named in preference to him. It is also known that there is no liking in our midst for Mr. Brydges Williams as our representative. While the whisper of a fourth name will not be listened to for a moment, though 'the charmer charm never so wisely.' No candidate in the arena, or likely to be in the arena, so largely commends himself to our confidence and support with this object in view as Mr. W. Bickford-Smith. Let there be no hesitancy in carrying our man triumphantly to the poll. There can be no doubt that the division, if it wants a practical man, thoroughly intimate and associated with its foremost interests can make no better choice."

PROSPECTS OF COPPER.—The *New York Iron Age* of April 23 makes the following remarks on the position and prospects of the copper trade:—"While the London market has dropped to a lower level than ever before, 43l. 17s. 6d. for Chili bars, and 49l. for best selected; our own market has, on the contrary, been gradually rising, and for good reasons. The fact is that the outside smelting concerns are going to have less furnace material at their disposal than was thought a month or two since. Among the Montana mining companies there is the Anaconda, which placed all it can turn out this year 'to arrive' in Europe; the Bell, a small mine, till next July; the Clark's Colusa, which ships concentrates, the same; the Montana Copper Company, the same; and the Parrot Silver and Copper Company, behind with its orders, also till July. In Arizona

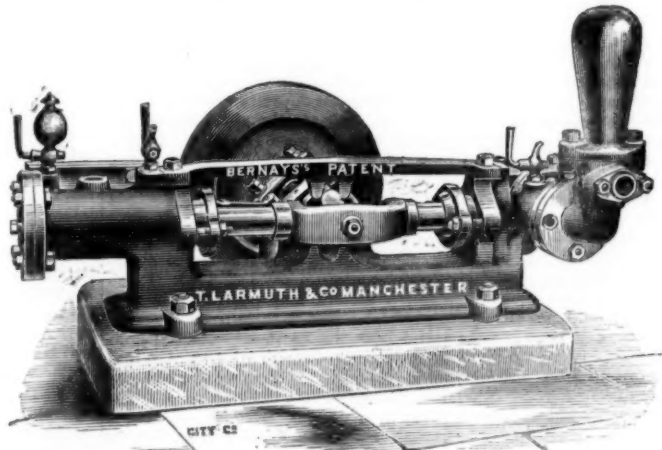
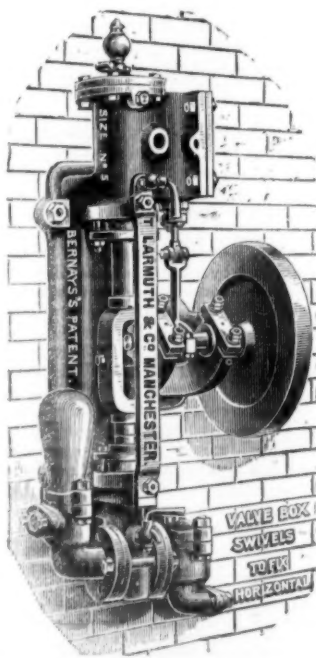
we have the Old Dominion to close down in May; last year's product of this mine was about 6,000,000 lbs. Then there is the Copper Queen, which last year produced 7,500,000 lbs., and this year will only produce 6,000,000 lbs. As for Lake Copper it appears that there has been going, and is going, of it, more out of the country than the home consumption, present and prospective, will warrant; that, consequently, it is seriously thought of to order some back this way. Low as the London market is at present, a shipping back of copper to the United States could hardly fail to encourage speculation for a rise on the other side, the more so as the London-Valparaiso bankers and mine-owners have the power to give Chili bars a vigorous push from the moment they perceive that the United States have begun to bare themselves altogether too much of copper, and are on the eve of becoming re-importers. We say this to show that there may be a bottom to everything—even to the value of Chili bars, down-trodden as they are at present. This feeling is in a measure shared on this side. Everybody feels convinced that the thing has been carried too far in the way of depreciation."

Messrs HENRY ROGERS, SONS, and Co. write under date May 7:—"Copper: The statistics of the article are most unfavourable, the increase in stocks since Oct. 1, 1884, being no less than 13,500 tons, or 30 per cent., and there is no appearance at the present moment of any reason why this steady progression should cease. Deliveries during April were 500 tons less than those of the same month in 1884, while supplies were nearly 4000 tons more. The large producing companies are now carrying out the policy which it has been well known they had determined to adopt, of increasing their output to counterbalance lower prices. The market has also been depressed by the sale of some large quantities of cash copper which has been long locked away in hope of better values, and it is probable that further heavy realisations have yet to be made. The sudden change in the political outlook has, however, induced some heavy buying during the last day or two, and while it lasts sellers may advance the price of Chili bars, but no permanent revival can be lasting till some assurance is felt that low prices have actually reduced production, and of this as yet there are no signs. With peace assured, it is probable that silver will again decline, and the effect on exchanges must be unfavourable on all sides to copper. The lowest estimates of the American production for 1885 give an increase of 13,000 tons over 1884, while it has been stated that it will before long be nearly doubled, though we doubt there being any good grounds for such a forecast. There is every indication that we have at present more copper than is needed by the consumption, and it will probably be best for all our home interests that speculation should for a time leave the article alone, and allow a price of from 42l. to 43l. to work out a natural cure for over production, and so bring about a permanent improvement in value. A forced advance now can only result in encouraging the enormous output we are contending with, and at the same time checking consumption, and we should have in consequence to see still lower values later.—Tin: Steady buying for America has kept our market firm during April. There has been a general disinclination to operate in the article except for distinct orders, considerable difference of opinion existing as to the probable effect of war on our supplies. Statistics are practically unchanged, although the London deliveries have been very large, 370 tons in excess of April, 1884. Unless supplies fall off unexpectedly, 51l. and 52l. per ton is probably a fair value for tin, and while the market absorbs readily ordinary supplies, it would hardly bear any attempt to realise on the part of large holders.—Lead: The market has advanced to 10l. 17s. 6d. for soft Spanish without silver, and 11l. 5s. for English. There is now no doubt that home consumers had allowed their stocks to run down very low, and that the slight decrease in the Spanish supplies coupled with the prospects of a war demand, caused an amount of buying in excess of the natural wants of the trade. In some quarters a considerable further advance is looked for, but while it is probable that prices will be maintained there may be no material movement for the present."

Messrs VIVIAN, YOUNGER, and BOND write under date May 7:—"Copper: Since our last issue Chili bars declined from 44l. 15s. to 43l., but have advanced again to 45l. cash, which is the closing quotation. The English smelters reduced their official price for manufactured copper 2l. per ton on the 16th ult., making the price of strong copper 56l. per ton. The Chili charters for the past four months are 12,000 tons. At the Swansea ticketing on the 21st ult. 1541 tons ore, average produce 11½ per cent., realised an average of 7s. 2½d. per unit. This is the first ticketing sale at Swansea since Dec. 4, 1883.—Tin: At the Billiton sale in Batavia on the 29th ult. 10,000 peculs sold at an average of 54½ fl. per pecul, equal to about 31l. 5s. laid down in Holland. Straits tin fluctuated between 77l. 15s. and 81l., which is the closing price. The April shipments are advised as follows:—Straits to London 1500 tons, and 275 tons to America; from Australia 425 tons to London; to America, 100 tons; from London and Holland to America, 815 tons. The deliveries for the month from London warehouses were 1720 tons, from Holland 500 tons."

THE TIN AND COPPER MARKETS.—Messrs FRENCH and SMITH, in their monthly circular dated May 1, remark that during the past month there was an excellent demand all round for tin, and values in the latter half stiffened up from 77l. 5s. to 80l. for fine foreign. Requirements from America, where stocks were seriously reduced, absorbed a large proportion of the arrivals here, and London stock shows considerable reduction. All available supplies from the East have been hurried forward, in fear of increased freight and war risks, but nowhere does production appear to be increasing. From all sides reports reach them of the unprofitable nature of copper mining operations at present prices, but still production goes on, and large quantities of stuff have to be dealt with. In present temper of the trading community one is bold enough to look far into the future, and so the market has assumed a tone of extreme despondency."

BERNAYS'S NEW STEAM PUMP.



We illustrate two views of this pump, the invention of Mr. JOSEPH BERNAYS, M.I.C.E., of London, a name that will be well known to our readers as the inventor of Bernays's centrifugal pump. The pump now under notice is a decided novelty, and from the way in which we saw it working cannot fail to commend itself. Fig. 1 illustrates the donkey pump, fixed vertical; Fig. 2 the same pump with valve boxes swivelled and fixed horizontal. The advantage of this simple arrangement is apparent, and will very often be of the greatest convenience to merchants and shippers, as horizontal and vertical pumps can be stocked with an outlay of one-half the capital compared with pumps where both vertical and horizontal have to be kept in order to be able to supply both kinds. The following will explain the advantages the patentee claims for his invention:—"Bernays's new patent pump combines the advantages of direct-acting pumps with those of the fly-wheel type. It admits of the long stroke and simple construction of the former, whilst retaining the steadiness and certainty of action, economy of steam, and accessibility of working parts of the latter. The novelty consists in making the connecting rod of the same length only as the crank, and in arranging the parts in such a manner as to lead the rod to change its position during each stroke from above the crank at one end to below the crank at the other end. The rod thus adds its own length to the stroke at each end, and in that way causes the piston to move through four times the length of the crank instead of twice only. A simple contrivance keeps all the working parts in their proper relative positions during the stroke; at the same time relieves the piston rod from side strain in consequence of which crosshead guides are dispensed with, and the wearing of the glands avoided. The piston moves accurately in accordance with the true law of the 'versed sine' both on the in and out stroke; it, therefore, reaches the cylinder ends at greatly reduced speed, and the slide valve can be set alike for both ends. The pumps take up very little space, and can be fixed in places where other fly-wheel pumps would be impossible. They are made in all sizes, and can be adapted for any purpose. We have inspected two pumps made for the Industrial Inventions Exhibition at South Kensington, where they will be in practical operation at the Inventor's Stand in Group XI. The smaller of the two is the ram pump, No. 1 having a steam cylinder 2 in. diameter, ram 1½ in. diameter, with a stroke of 3 in., and delivering at 160 revolutions per minute about 180 gallons per hour. The other is a double-acting pump, with steam cylinder 6 in. diameter, water cylinder 4½ in. diameter, and stroke 9 in. The cylinder is lined with gun-metal, and the gland is bushed with the same metal. This pump will deliver at an average speed 4800 gallons per hour. Mr. Bernays has granted an exclusive license for the making of his patent pump to Messrs. T. LARMUTH and Co., engineers, of Salford, Manchester, and the various details of construction have been very carefully considered; the material and workmanship is of the highest order, a most important point in pump work. Every working part of the pump is in view and easy of access. The firm have several in hand. Amongst others specially arranged pumps available for all general purposes, boiler feeding, &c., and of sufficient power for use as fire pumps in cases of necessity."

THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA—No. I.

BY THOMAS COLLINGWOOD KITTO,
[ALL RIGHTS RESERVED.]

I have been frequently asked to publish a summary of the result of my examination of the gold and diamond fields of South Africa; therefore with your kind permission I purpose doing so in your valuable Journal.

My first visit to the Cape was in 1869, my visit being a very short one. I next visited the Cape in 1878. Mr. Sprigg was the Prime Minister, and Sir Bartle Frere was the Governor and High Commissioner. Soon after I presented my credentials I was introduced to Mr. Laing, the Hon. Commissioner of Crown Lands, whom I found to be one of the kindest gentlemen that it has ever been my privilege to know. Mr. Laing informed me that since about the time that gold was first found in Australia the Cape Colony had been frequently startled by reports of rich discoveries of gold, and people were continually claiming rewards from the Government for the alleged discovery of payable gold fields. In some instances splendid nuggets of gold had been sent to the Government in order to show that there was no mistake about the matter. I had the pleasure of looking at those nuggets in the Cape Town Museum. Mr. Laing explained that a great many geologists had examined the country from time to time, and had pointed out many places where gold would be found in large quantities. The Government had often advanced sums of money to test those places; but up to the time of my interview without any satisfactory result. At the time of my visit the gold fever was assuming a somewhat acute form, and the applicants to the Government for assistance to help persons to unearth the yellow metal were much more numerous than usual.

Sir Bartle Frere and his Government were very anxious to develop the resources of the colony; but they had been deceived so many times relative to the discovery of gold that they decided before offering any more rewards to get me to examine and report on all the places on which gold was said to have been found; and consequently on the 6th of November, 1878, I was specially appointed by the Government to examine the country, and finally settle the question as to whether gold existed in payable quantities or not, and they did everything that was necessary to render my examination thorough and complete.

The trip around the coast from Cape Town to Mossel Bay was very pleasant; but at Mossel Bay it was a little rough, necessitating our being lowered from the steamer into the barge in big baskets. On getting ashore I put up at a very comfortable hotel, and if liquoring up was any sign of prosperity, the people must have been very rich indeed.

I had letters of introduction from the Government to all the Civil Commissioners along the route I travelled, the result being that I was not only well treated but almost everybody I met had either a rich quartz reef or an alluvial gold mine for me to report on. If I examined every spot in South Africa that everybody wanted me to it would have made a monstrous hole in "my three score years and ten." I, therefore, arranged that before deviating from the course laid down for me those who thought they were in possession of gold, silver, or any other mineral should bring me samples that I might examine them. This saved me a great deal of annoyance, and the Government a great deal of unnecessary expense.

Seeing there was no chance of finding gold in the immediate neighbourhood of Mossel Bay I did not waste any time there, but pushed on in the direction of the town of George. For the first 7 or 8 miles the country is flat, sandy, and most uninteresting. But at the Great Brack river there is a decided change, both in the character of the rock and the configuration of the country, which becomes hilly and almost mountainous. The rivers and streams are rapid and tortuous, and the rocks are composed principally of gneiss and clay-slate. In several places there are large quartz reefs, varying from 2 ft. to 8 ft. broad, and the detritus at the foot of the hills, judged merely from a superficial examination, looks likely enough to produce gold; but on reducing the matter to a practical test neither in the alluvial or reefs is there the faintest trace of gold.

In crossing Swat's Brook, about 7 miles west of Georgetown, a road party in getting some stones for repairing the roads laid open a quartz reef about 12 ft. broad. Gold was reported to have been found here, and the general appearance of the reef is favourable. I tested scores of samples from this reef and the brook close by without getting the faintest trace of gold. Never in my life had I seen a similar formation so absolutely barren.

From Swat's Brook to Blanco and the George the high road has been cut through several small hills affording a good opportunity of examining the shallow alluvial deposits through which the road passes, as well as the numerous small reefs which cross the road. The general appearance of this place I considered good, closely resembling some parts of the Australian diggings, and I was much disappointed at not finding gold. There are one or two places near the Malagas river, at Blanco, where I got a trace of gold, but nothing of any value. I made a very careful examination of the country between Blanco and George. I saw a great number of quartz reefs cropping out of a coarse sandstone formation, but they do not contain a trace of gold. I was informed that many Australian miners had passed over this place, all stating that gold would be met with in payable quantities. I can easily understand how the most experienced gold miner could be deceived in the George district by a mere casual observation, because many of the places bear a striking resemblance to the Tarangower district in Australia. It was not until I had repeatedly reduced the matter to a careful practical test that I pronounced the district through which I had passed from Mossel Bay to George to be absolutely of no value for gold.

To show how necessary it is to exercise caution while examining a country reputed to be auriferous, I may as well relate a circumstance which occurred soon after my arrival at George. It was the second evening after my arrival that a gentleman came to the hotel where I was staying and called me out very privately, and offered to show me gold sticking out of the rock in the bed of a small brook about 5 miles from the town. In order not to excite any suspicion, and that I might be able to communicate with the Government before a big rush set in, we agreed to start an hour before daybreak. The next morning in a comfortable trap and behind a spanking pair of horses I enjoyed a very comfortable drive. We secured our horses, and soon after daybreak we went down to the brook, and there, just 2 or 3 in. below the surface of the beautiful clear water, was the unmistakable precious metal. With my pick and chisel I broke off what appeared to be the best piece, and saw at once that the gold had been carefully rubbed on the stone. I at once informed the gentleman that it was a very bungling attempt at mine making, and was not likely to deceive anybody. Of course he was very indignant and knew nothing about it, but we at once put the horses in the trap and drove back to the town, each observing the most eloquent silence.

An explosion of gas occurred at the Wynnay Collieries, Raabon, on Friday, in which two men were burned. It appears that a small accumulation of gas in one of the working places in the mine was ignited by the firing of a shot, and the fire-lighter (Francis) and a collier named Edward Humphreys sustained burns, and were immediately brought to the surface. Fortunately the miners were away at the time of the explosion.

WATSON BROTHERS MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST MICHAEL'S ALLEY, CORNHILL, LONDON.

Serious charges have been made in Cornwall against the accounts of Dolcoath, and surely it becomes the duty of the committee at once to reply to them. We read in the *West Briton* that—"It is well known the committee have had for several years a fictitious balance of 4000*l.* down as an asset which is really a liability, and yet in the face of this gigantic piece of deception they wilfully persist in recommending and virtually carrying a dividend, which they durst not openly support." These are big words and serious; they are either true or false, and ought not to pass without explanation. Again, it is said, that the bank charges of a mine making 20,000*l.* a year profit have been as much as 1000*l.* a year. What for? The accounts as sent round to the shareholders are certainly anything but clear; in the so-called "balance-sheet" on one side we have—Tutwork and wages, 4028*l.* 17*s.* 8*d.*, as a credit; bankers, 10,821*l.* 5*s.* 11*d.*; cash balance, 294*l.* 3*s.* 1*d.*; club, 460*l.* 14*s.* 9*d.*; making a total of credits, 15,644*l.* 16*s.* 6*d.* On the other side—Due to merchants, 6141*l.* 7*s.*; dues, 1666*l.* 9*s.* 2*d.*; bills payable, 2558*l.* 10*s.*; and a few other items, showing a credit balance of 4958*l.* 5*s.* 9*d.*, out of which a dividend of 4700*l.* was declared. But if there was a balance at the bankers of 10,821*l.* 5*s.* 11*d.*, why is there 6141*l.* 7*s.* due to merchants, bills payable 2558*l.* 10*s.*, and 1666*l.* 9*s.* 2*d.* due to the lord? The fact is, as we presume, current labour costs (one of 6000*l.* due at about the time of meeting or a few days after) have to be met by bankers' advances, to enable the dividends to be given; and thus to put the mine into a sound financial position no dividend should be declared till all the merchants are paid and liabilities cleared off.

A mine costing 6000*l.* a month to work, and with only 4700 shares, may be seriously affected at any time by a sudden falling off in returns as well as by the price of tin; and such contingencies are quite enough for the ordinary shareholders to contemplate without the risk, which seems to hang over them at present, of having to pay an accumulation of back debts. Besides a mine like Dolcoath should set an example to the county not only of skilful and profitable working, but of sound financial management.

What we intended to convey was, as our correspondent rightly suggests, that supposing shares in Metal and Flow to be at 1*l.* each, or 12,000*l.* for the entire property, the Flow itself in which there is very little speculation would pay a large rate of interest upon 12,000*l.* as well as the costs of sinking Metal shaft, and here, if a discovery is made such as gave the enormous returns in the other part of the sett, shares would not be obtained even at 5*l.* each.

We have received a long and special report of East Blue Hills from Capt. Nance, and it is in every respect most satisfactory, but would occupy too much space to publish in its entirety. He says: "The lode has improved from the 10 to the 20 fm. level from 10*l.* to 40*l.* per fathom, and the lode not yet cut through. Its full width and value will be known in a few days, and its composition is similar to the productive tin lodes of the district, composed of peach, sugar-spar, prair, and quartz, with oxide of tin disseminated throughout. It is inexpensive to work in every way; being of a loose porous nature it requires little or no blasting, and the walls are very firm requiring no propping. The water charges are also exceptionally light." The stamping power, he says, should be increased from 22 to 48 heads. The sinking of the shaft should be pushed on with all vigour, as well as the driving of the bottom ends. The mine is now paying costs, and when the bottom levels are opened will make a good profit, and especially if the improvement continues only as good as it is now. It is very easy tin to dress, and in the bottom of the mine it is almost entirely free from mundic, and might almost be sold without burning it, and the waste is very light. In fact it is the easiest one I ever saw to dress. And he adds he neither expected such a good lode or such a good mine. As it was from our remarks on East Blue Hills, in "Cornish Notes," that Capt. Nance became a shareholder, and resolved to inspect the mine himself, we are the more glad to have this confirmation of our views.

At Prince of Wales a good improvement has taken place in the pitch in the 90 fm. level; it is now worth 15*l.* per fathom for tin and whole up to the 77 fm. level. The new lode lately intersected in the shaft and which dipped out of it toward the main lode may soon be intersected again, as the shaft is down to the 114 and driving will be commenced. The two lodes will form a junction in depth.

As shareholders in Wheal Pevor at a very high price we have held on our shares, knowing that sudden changes sometimes occur in mining, and that a discovery might any day cause a change for the better here. And we are glad to see the hopeful remarks of the agent, who states that in five years they returned 100,000*l.* of tin, and paid 27,000*l.* profit, and he sees no reason why success should not again attend the mine. It is the time, therefore, to average our shares by buying when so low, and certainly not a time for selling. There 11 pitches now working at an average tribute of 11*s.* in the 1*l.*, and, with the cross-cuts now going out for discoveries, the agent thinks something good will be met with that will prove a benefit to the shareholders.

There are three well-known lodes in East Blue Hills—the Baldhu, Pink, and West Kitty. All our operations so far have been in the Baldhu, a well-known rich lode, and which is now worth at least 40*l.* per fathom, and opening out a great course of ore. In the old Blue Hills Mine adjoining, the late discovery is on the Pink lode, which has also been cut in East Blue Hills, and may some day be of importance. The West Kitty lode runs through the sett further south.

It will be seen from the report that the part of the lode driving upon at East Blue Hills is worth 33*l.* per fm. in each end.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, has been—Bombay (Limited), 5½*l.* to 6½*l.*; British Gas Light (Limited), 40½*l.* to 41*l.*; Buenos Ayres, New (Limited), 12½*l.* to 13½*l.*; Commercial Consolidated, 24*l.* to 25*l.*; Continental Union (Limited) Original, 37½*l.* to 38*l.*; ditto, New 1869 and 1872, 26½*l.*; ditto Seven per Cent. Preference, 31½*l.*; Gas Light and Coke, A, Ordinary, 225 to 228; ditto, C, D, and E Ten per Cent. Preference, 242½*l.*; ditto, H Seven per Cent. Maximum, 158; ditto, Four per Cent. Debenture Stock, 106½*l.*; ditto, Six per Cent. Debenture Stock, 155 to 156½*l.*; Imperial Continental, 202 to 207; Mauritius (Limited), 1½*l.*; Metropolitan of Melbourne Five per Cent. Debenture, 192 to 1910, 104½*l.* to 105; Oriental, 4½*l.*; Merchants Marine (Limited), 1; North British and Mercantile, 2½*l.*; Phoenix, 204; Railway Passengers, 8 to 8½*l.*; Royal Exchange, 277 to 280; Universal Marine (Limited), 4½*l.* to 7*l.* Insurances steady. Fire companies rather easier; but marine firm, upon the improved prospect of peace, they having issued policies at war risks.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. Wm. ARNOTT, of Tokenhouse-yard, are given in tabular form in the Stock and Share List page of the Journal.

Law Intelligence.

WHEATLEY V. SILKSTONE COAL AND IRON COMPANY.

In the High Court of Justice, Chancery Division, last week, before Mr. Justice North, this case came on. Mr. William Barber, Q.C., and Mr. Lang appeared for the plaintiff.

The defendant company, in liquidation, was represented by Mr. Karslake, Q.C.; and individual debenture-holders were variously represented.

Mr. BARBER, in opening, said that the action was really for the purpose of taking his lordship's decision with reference to the priority of certain mortgages created by the company—whether a specific mortgage given by the company to the plaintiff, Mr. Wheatley, upon part of their property had priority over the charge given to debenture-holders, the charge of the latter being a roving charge over all the property of the company, and being in point of time prior to the plaintiff's charge. That was substantially the question to be decided. There were a great many defendants, several of whom had disclaimed, and as against them the action had been discontinued. The defendants, who did not deny the plaintiff's claim, were Thomas Smith, Charles Roberts, James Ackeroyd, John Arthur Irwin, Thomas Briggs, Thomas Belton, and Hannah Maria Latimer. Since the action commenced Joseph Backhouse Ackeroyd had become bankrupt or liquidated, and he was represented by Edwin Edey; and Cuthbert Hodgson had also liquidated, and C. H. Moss had been added as a defendant to represent him; but Moss had not appeared, and plaintiff, therefore, moved against him for judgment. The company was incorporated on the 1st April, 1875, and in 1878 the directors, who had by the articles borrowing powers conferred upon them very much wider than were usual, issued debentures for 10,000*l.*, which were taken up almost exclusively amongst themselves, and in 1879 they issued other debentures, of which 7200*l.* were taken up, and not much more than 1000*l.* were issued to anyone outside the board of directors. In the year 1881 they applied for a loan to Mr. Wheatley, who was a wealthy gentleman and a magistrate in the West Riding of Yorkshire, and he lent them a sum of 4000*l.* for the purposes of the company, taking as security for the repayment of the amount an agreement of charge upon the leasehold mines belonging to the company, two leases which were vested in the company, and the security was an equitable mortgage by charge and deposit, duly registered under the Act, at Wakefield, as were also the debentures which had been issued. Mr. Wheatley also took a debenture for a sum of 4000*l.* ranking *pari passu* with the other debentures.

Mr. Justice NORTH asked how that could be, and Mr. BARBER said that all the debentures ranked *pari passu*, but on examination of the documents themselves, his lordship held that that was not so.

Mr. BARBER, continuing his opening, said that the plaintiff also took the personal guarantee of five of the directors, but that was a matter with which his lordship was not concerned. On the 31st May, 1882, there was a resolution to wind up voluntarily, and on the 11th December, 1882, an order was taken to continue the winding up under supervision. The question in this action was in his view only a question of law as to the construction of the debentures. He held that under his equitable charge on the leaseholds the plaintiff had a first charge as against the debenture-holders, and that even assuming that the Court should be against him upon that point he contended, looking to the position of the directors as holders of the first debentures, that under the debentures for 4000*l.*, issued by the directors to the plaintiff, the plaintiff was entitled to priority over the other debenture-holders.

The case was argued for the various defendants who appeared by Mr. Karslake, Q.C., Mr. Everett, Q.C., and Mr. Buckley, and in the result,

Mr. Justice NORTH decided in the plaintiff's favour on the first point, and that the specific mortgage to the plaintiff must take in priority to the debentures. The second point he could not deal with as all the parties were not before the Court; and his lordship directed an account to be taken, the plaintiff to add his costs to his security.

BREACHES OF THE COAL MINES REGULATION ACT.

At the Aberdare Police Court, on the 28th ult., James L. Thomas, manager of the Nantymelin Colliery, and John R. Williams, manager of the Penrhin Colliery, were each summoned for a breach of the 38th section of the Coal Mines Regulation Act. Mr. Thomas Williams, of Merthyr, appeared in support of the summonses; and Mr. Walter Morgan, of Pontypridd, defended.

Mr. WILLIAMS explained that the section provided that a correct return should be sent to the Inspector of the district on or before the 1st of February in each year showing the coal or other mineral raised in each mine, and the number of persons ordinarily employed during the year ending on the preceding 31st of December. The returns in respect of the collieries, of which the defendants were the managers, were not sent in until the 3rd March.

Mr. MORGAN admitted the default. He said that Mr. William Thomas was the agent for those two collieries, as well as for about eight or ten others. As the defendants were young managers he hardly liked them to send in the returns direct to the Inspector, as he was anxious to certify them himself. They were sent in to him at the Brynawell office in time, but the clerk who received them put them into a drawer and omitted to call his attention to them for some days. When the mistake was discovered they were at once sent to Mr. Wales.

The Bench considered the cases would be met by a small penalty, and in each a fine of 1*l.* and costs was imposed.

William Brace, Ynyswen Colliery, Treorke, Mr. Thomas Salathiel, manager Tynybedw Colliery Pentre, Mr. Griffith Thomas, manager, Maerdy Colliery, Maerdy, and Mr. J. Gibbon, Glyn Company, Llantrissant, were charged with the violation of the 38th section of the Mines Regulation Act, which provides that every manager should send in an annual return of the quantity of coal or other mineral raised by the number of men ordinarily employed at the mine, and the ages of all those whose hours of labour are regulated by the Mines Regulation Act. Mr. Thomas Williams (Merthyr), instructed by Mr. T. Wales, Inspector of Mines, prosecuted, and Mr. W. H. Morgan (Morgan and Rhys), appeared on behalf of the defendants. Messrs. Thomas Salathiel and Griffith Thomas were fined 1*l.* each, and Gibbon and Brace were fined 2*l.* each.

SERIOUS INFRINGEMENT OF COLLIERY RULES AT PONTEFRAC.

At the West Riding Police Court, Pontefract, on Wednesday, before Mr. T. W. Tew (Chairman), and Capt. Armytage, Robert John Turner was charged with a breach of rule 34 of the Featherstone Main Colliery Company, and the Mines Regulation Act, by having, on April 30th, been in the pit in possession of a tobacco pipe, and a quantity of loose matches.

Mr. KABERRY, who appeared to prosecute, said that defendant had been guilty of contravening one of the most important rules of the colliery. As he was leaving the pit on the previous Thursday the deputy detected a pipe peeping out of the defendant's pocket, and on his being searched a quantity of loose lucifer matches were found upon him. There were at that time about 700 men working in the pit, and by his careless conduct the defendant had placed the lives of the whole of these men in jeopardy. He had committed a breach of one of the most important rules, and rendered himself liable to a penalty of 40*s.* and costs.

Mr. ANDREW, manager of the colliery, stated that the defendant had only been employed there about four months, although he well knew what the rules required of him.

DEFENDANT pleaded guilty, but stated in extenuation that on the morning in question he unknowingly put on a coat with the pipe and matches in it as it happened to be a wet morning. He had not wilfully committed a breach of the rules.

The BENCH decided, under the circumstances, only to inflict half the penalty. He would be fined 20*s.* and 17*s.* 6*d.* costs. The money was at once paid by defendant.

THE INVENTORIES EXHIBITION.

The Prince of Wales celebrated the opening of the Inventories Exhibition at South Kensington, on Monday last, when the proceedings were conducted with considerable *clat*, and a brilliant future seems certain for this exceptionally useful and interesting collection of general inventions. At present it is difficult to speak of special exhibits, for, as usual, there has been that delay in preparation which is now a permanent feature of the early days of large exhibitions. During the week, however, small armies of artisans and skilled labourers have been engaged actively in fitting machinery, opening cases, and finally fixing exhibits, so that very shortly it is expected that order and completeness will generally prevail.

The exhibits associated with the mining interest are both numerous and important, most of the principal manufacturers having prominent stands. The division devoted to these (Group II, North Court, South Gallery) occupies a spacious gallery immediately adjoining the grand central transept on the right from the main entrance; but at present most are in course of completion.

Mr. H. BAUERMANN, F.C.S., contributes the following notes to the Official Catalogue in preface to the Mining and Metallurgy Department:—

The progress of invention in mining and metallurgy during the past 25 years may in great part be considered as synonymous with that in general mechanical engineering, machinery of increased power and greater precision having been called for by the enlarged scale upon which mining and smelting operations are now conducted, while the discovery of new mineral districts has led to the invention of new methods of working or such considerable modifications of older methods, as to bring them substantially into the category of new ones. The very comprehensive character of the headings of the different classes render it impossible to furnish anything like even a catalogue of the names of inventors whose work has extended over the period under review, and all that will be attempted is a very brief outline of the more striking results obtained. In mining, the advance in methods of deep boring, whether for exploratory purposes, or in the actual winning of minerals, such as salt, mineral oils, and combustible gas, has been very marked. This is to be attributed mainly to the adoption of steam instead of manual power, and of the method of continuous flushing by the substitution of hollow rods, with a circulation of water for the removal of the debris produced by the cutting tool, for the solid rods and sludge-pump of the older intermittent methods. This improvement, originally adopted by Fauvelle in France, has come into very general use in America, where it has attained a high degree of development in the oil regions of the Northern United States and Canada. Another and more important improvement, however, is the adoption of annular or core-boring methods, whereby the central portion of the ground bored through is left standing, and may be brought up in lengths from time to time. This may be used in combination either with percussive or rotating cutters, one of the most important forms of the latter being the diamond boring machine, in which fragments of hard uncleavable diamond, or carborundum, bedded in a steel ring, are used instead of steel-cutting tools. This method, originally due to Leschot of Geneva, has been largely used in England, the United States, and the colonies, and to a lesser extent in Europe. Nearly all the remarkable discoveries of the subterranean extension of the older formations under London, and in different parts of the South of England, have been made by the diamond boring machines. Boring machines of large size have also been applied to the special purpose of sinking shafts through very watery ground, where it is not possible to keep the bottom sufficiently dry for sinkers to work in the bottom. This has been especially developed in Belgium by Kind and Chaudron, and one of the latest applications has been in the sinking of a pair of large pits at Marsden, in Durham.

The most important and characteristic operation of mining proper, that of breaking ground, has been completely modified in late years by two principal causes—the introduction of boring or drilling machines as substitutes for the older method of hand-boring, and of more powerful kinds of explosives for the blasting powder, which had been in use substantially without improvement since its first introduction in the 16th century. Of these latter substances the choice now offered to the miner is almost embarrassingly large, but prominent among them are those depending upon the nitro-compounds, nitro-glycerine, and nitro-cellulose. The most popular of all is the so-called dynamite of Nobel, a plastic mass formed by soaking infusorial silica with nitro-glycerine, which is now used in every mining district in the world; besides which, Abel's compressed gun-cotton, and the material known as blasting-gelatin, a kind of gun-cotton dynamite, are also largely employed; and, in spite of the special dangers attending their use, there can be no doubt that the miner has substantially benefited by the introduction of these so-called high explosives. The use of boring-machines, though less general than that of the newer explosives, has led to a considerable development of this class of mechanism. In the earlier forms, as used in large works such as the great Alpine tunnels, where rapidity in work was a principal desideratum, they were rather heavy, especially in the supporting arrangements which were generally planned for keeping two or more machines at work at one time; but the requirements of smaller and irregular excavations, such as the levels and stopes of metallic mines, have led to the adoption of lighter and more portable forms which have done much towards popularising their use in mines. The number of different kinds of machines in current use is very large, at least 25 patterns having been introduced since 1863. The working principle is common to all—a steel drill or borer attached to the rod of a piston which is rapidly driven against the rock by steam or compressed air, the latter being most generally used in confined or underground spaces; the borer in addition to the reciprocating motion being slowly rotated about its axis. The differences in construction are chiefly to the mode of effecting this rotation and that of moving the valve. In some the construction is simplified by dispensing with the use of moveable valves, the distribution being effected by the piston itself. In addition to the percussive borer others with a continuous rotary action have been introduced. These are mostly adapted for manual power and for use in soft rocks, such as coal and salt. The cutting tool is made self-clearing by adopting a spiral form or that of the ordinary twist drill. The machines of Liebhaf and Madermott are of this type. On a larger scale where power is applied the rotary system is represented by the diamond drill already noticed, which is susceptible of application in almost any position, and the hydraulic borer of Brandt, in which the cutting is effected by a strong tubular saw, rotating slowly while under a heavy pressure produced by a column of water (1500-2000 lbs. per square inch), as contrasted with the more rapidly revolving diamond cutter. This has been used in the Ariburg tunnel and in the deep mines of Pribram.

The use of machinery in another characteristic part of mining labour—the boring or undercutting of coal—has been introduced during the period under review. Of these the earlier forms reproduce the action of the miner's pick, the tool being moved on a horizontal plane by a piston and bell-crank. Firth's machine is of this kind. In others, such as that of Carrett, Marshall, and Co., the tool is similar to that of a slotting machine, while

in that of Winstanley and Barker and Baird, rotating cutters mounted on a wheel or flexible chain are used. It is somewhat remarkable that, in spite of the many advantages to be derived from their use, coal-cutting machines have as yet made but little progress towards general adoption. In another direction the danger of using explosives in fiery mines has been met by several inventions, such as the compressed lime cartridge of Smith and Moore, where the disruptive force necessary to break down coal is supplied by the expansion of compressed quicklime by hydration under pressure. This is used currently in Derbyshire. Other machines depend upon the use of expanding bits by wedges driven by hydraulic pressure, as in those of Jones and Bidder and Levat. The latter method has also been applied on the largest scale in driving galleries in the Bosseyeuse of Dubois and François. This is a boring-machine of large size capable of drilling 4-in. boreholes for plug and feather wedges, which are driven home by a heavy mallet, that is substituted for the drill when breaking down the hole. In the Marihay collieries in Belgium, producing over 400,000 tons of coal annually, machinery has been entirely substituted for explosives in getting coal for some years.

In the working of mines few modifications of importance have been made of late. The tendency, generally speaking, is towards methods allowing a continuous excavation of the mineral, such as longwall work, rather than those involving the retention of large areas of pillars. In thick and highly inclined coal seams the method of removal of the bed by horizontal slices, and filling the excavation with stuff, either broken from the adjacent rock or brought from the surface, is now commonly used. In some instances blast-furnace slags have been used as filling material. The use of timber for securing underground workings is still general, though in many European districts it is becoming scarce and dear. As a substitute wrought-iron frames made of rails or bars of similar section, bent to the contour of the level and put together with fish plates, have been adopted to some extent in collieries, as have also wrought-iron rings in circular shafts, instead of timber or masonry. The heavy pithead and shear frames of large collieries are now very often made of wrought-iron or steel put together in a lattice or tubular form. In the Kind-Chaudron system of boring shafts through wet ground, the use of cast-iron tubing is an essential. This, however, is made in rings cast of the full size section of the shaft instead of being put together in segments like the earlier metal tubing of the North of England.

In the transport of minerals underground the distance of the workings from the pit bottom, due to the large areas of ground worked from a single pair of pits, renders mechanical traction necessary in many cases. This is effected in very many ways; steam hauling-engines, placed near the pit bottom, or compressed air-engines, and working a line of wire ropes along the main roads being the most popular. Sometimes the hauling rope is brought from an engine at the surface, and carried over reversing pulleys on the shaft to avoid the use of underground engines. Special methods, involving the use of locomotives, have also been devised, the most notable of which is the electric railway of the late Sir W. Siemens, adopted at Zaukeroda, and in Silesia. Fireless locomotives, driven by compressed air or steam from superheated water and caustic soda lye, have also been introduced, but none of these have advanced much beyond the experimental stage. Although numerous modifications have been made in the arrangements for drawing minerals in shafts, they are mainly improvements of older methods, rather than the introduction of new ones. In order to reduce the ratio of dead to paying load, steel has been largely substituted for iron in the construction of pit-trams and cages, while the latter have been increased in capacity so as to carry six or eight trams at one time. Wire ropes of tapered section, made of steel of so high a tensile strength as is consistent with flexibility, are now commonly used, although in Belgium alone fibre ropes still maintain a high reputation. In deep shafts the question of counteracting the variation in the load on the engines, due to the constant change on the relative position of the ascending or descending cages, is of great importance, and several methods have been adopted, one of the best being the spiral or scroll drum, where the rope coils upon a bed of gradually increasing diameter as the cage ascends, while the descending load uncoils from a diminishing spiral; but the great size and weight of such drums is rather against their use. Another method, by an auxiliary balance chain, hanging in a special pit, is frequently used in mines of moderate depths. In Koepe's system a constant load is obtained by dispensing with the use of drums, the two cages being connected by a rope passing over a grooved pulley on the main driving shaft at the top, and by a tail rope hanging on a loop below them, so that wherever the cages may be the weight on the engine is unchanged. Blanchet has still further simplified drawing by dispensing with ropes, the cage being placed between two pistons, which are propelled through a vertical tube by the pressure of the atmosphere against a vacuum produced by an exhausting pump at the surface. This has been successfully applied to a pit nearly 2000 ft. deep at Epinac, in France, but the great cost has militated against its being generally used. The practice of American mining engineers in regard to winding engines is in strong contrast to those of Europe; geared engines with fast and loose couplings, usually of a frictional character, being very common, steam being used only for hauling while the descending load runs off by its own weight under the control of a brake. This allows the winding arrangements of a large mine, drawing from numerous points, to be concentrated in a single engine-house. With a view to the prevention of accidents by over-winding and the breaking of pit-ropes, safety-hooks, for disconnecting the cage from the rope and safety-catches for stopping a free falling cage in its descent, by gripping or cutting into the pit-guides, have been introduced at different times in many different forms (some of these were constructed before 1851), and are largely, though by no means universally, employed; for although their utility has been proved in many cases, they are not so perfectly certain in action as to be always reliable. As important accessory appliances towards safety in mining may be mentioned steam-brakes and reversing gear on the engines, and improved pit signals, for which latter purpose electric telegraphs are taking the place of the old knocker lines.

In the drainage of mines the general tendency is to the substitution of direct double-acting short-stroke engines placed underground for the older form of single-acting beam-engines at the surface, which does away with the use of heavy wooden rods in the shaft. It is also becoming common to substitute solid or built-up rods of wrought-iron for those of wood where surface engines are used. Hydraulic and pneumatic accumulators, which store up the superfluous momentum of descending pump-rods and utilise it on the return stroke, have also in some cases replaced the older kinds of balance weights and bobs. Among the more important contrivances for ensuring safety in pumping machinery are Davey's automatic regulator for non-rotary engines, and Kley's adaptation of the cataract to those with fly-wheels. In the ventilation of mines the use of large exhausting fans has in many cases superseded the underground furnace, and of the different patterns that of Guibal, with straight blades enclosed in a spiral casing, with a tapered discharging chimney, is by far the most common. Latterly, however, the method of blowing fresh air through the workings by a compressing fan at the bottom has met with some favour, as has also that of distributing air at high pressure through pipes to different workings, which can be then

utilised either directly, or preferably in driving special ventilating machines, such as Körting aspirators, or small fans, so as to produce local ventilating currents where required. The problem of producing lamps that shall be safe under all circumstances in fiery mines is still unsolved, although much ingenuity has been devoted to it as well as to the accessory detail of an inviolable method of fastening them. The general opinion seems to be that the Mueseler construction is about the safest now in use. Important aids to life-saving service after accidents has been afforded by the apparatus of Denayrouze and Fleuss, where by the use of compressed air, or oxygen and lime water or caustic soda for absorption of the carbonic acid produced in respiration a miner with a lighted lamp may remain in workings entirely without respirable air for as much as an hour at a time.

In the various operations required for rendering the produce of mines merchantable there is little that is actually new in principle, the advance made in the dressing of minerals on the large scale required by modern mining economics being mainly in the direction of systematic arrangement of the different processes, and more particularly in the more exact sizing of minerals as a preliminary to separation processes proper. In the preliminary breaking down of large fragments of rock to more manageable sizes, the Blake rock-breaker, whose invention by the late Mr. Blake, of Newhaven, Connecticut, was nearly coincident with the commencement of the period under review, has come into almost universal use, and generally in the original form, although some special modifications have been made to render it available for breaking to finer sizes. The work of breaking to coarse sand or gravel sizes is performed almost exclusively by the Cornish roller crusher, which has, however, been subjected to considerable modification both as regards size of rolls, which are now very much larger than formerly, and in the arrangements for preventing breakage, by the substitution of springs of steel, india-rubber, or both combined, for the weights acting on unequal armed levers originally used. For fine pulverising down to the grain of fine sands without preliminary reduction the old gravitating stamps with square heads and lifted by cams are still of the greatest importance, although in America and Australia, where the accessory work of amalgamating as well as pulverising is done on the battery, cylindrical stamps, which are rotated as well as lifted by cams, are used to the exclusion of the older European form. Attempts have been made to increase the working speed and force of impact of stamps by the substitution of fluid pressure for simple gravitating action. Of these two forms may be particularly mentioned—Husband's pneumatic stamps with a flying compressor on the stamp lifter producing a supply of air at high pressure, which is exhausted and renewed at each blow of the head, and Ball's steam stamp, which is essentially a directly acting steam-hammer with an auxiliary gear for turning the tup and rod about its axis. The pneumatic stamp has been successfully employed in a few places, while that of Ball is largely used in the Lake Superior Copper Mines, where the ore is entirely native copper, but has not been adopted outside of that district.

In the treatment of ores very finely interspersed in the waste rock it becomes necessary to grind them to a finer powder than can be obtained with stamps, in machines of which the ordinary edge runners or drag mills are types. These are represented in new forms by Dingey's pulveriser used in grinding fine sands from tin and silver-lead ores, and the various forms of pans used in the American processes of amalgamation, which are improved reproductions in iron of the old Mexican arrastra. Various forms of centrifugal pulverisers have been introduced from time to time in which grinding takes place by the mutual attrition of suspended particles, or by impact with steel blocks or bars. These may be represented by Carr's Disintegrator, a system of concentric cages of bars revolving rapidly in opposite directions, and Vapart's "Broyeur," which is a series of horizontal discs with radial projecting ribs placed one above another. The use of this class of machine is practically limited to soft materials. In sizing machines notable advances have been made by the adoption of perforated plates instead of wire network for the sifting surfaces of drum sieves, which not only resist wear better, but give more uniformly sized products, while for finer materials diffused through water, various systems of current sizers have been developed from that devised about 30 years since by the late Ritter von Rittinger. The method of separating minerals by the pulsating action of a column of water forced through a sieve-plate from below in the so-called jiggling process has been greatly extended in application, owing to the numerous modifications in construction which have transformed the original plunger jigger of Petherick and its immediate successor, the square plunger Harz jigger into a series of machines adapted alike for mineral and coal dressing, and for materials varying in size from the coarsest gravel to very fine sand. It would, however, require too much space to enter further upon the consideration of these. In the treatment of very finely divided ores or "slimes" rotating conical frames, both of convex and concave form, are to a great extent replacing the older kinds of fixed plane and conical buddies, while on the Continent of Europe the side-blow percussion table of Rittinger is in considerable favour. In America the Frue vanner, a combination of a travelling belt (derived from the original Brunton frame) with the side-blow action of Rittinger, is in great repute as a concentrator of fine slimes, and has been subjected to numerous modifications by other constructors. Before leaving the subject of dressing, it may be interesting to notice that the practice of engineers tends to the substitution of rolls for stamps even in the reduction of minerals, such as gold and silver ores, for which the latter were formerly considered essential. This change of practice seems to be well founded, as it is in accordance with the experience gained in the case of flour milling.

BRINE SUPPLY IN THE CHESHIRE SALT DISTRICT.—The Mersey Salt and Brine Company, who have completed the engines and pumps for their brine shaft, at Marbury, decided some time ago to take advantage of the low level at which brine was at in the district to drive a heading from the bottom of their shaft to increase their brine supply, and the experiment has proved very successful. The object of the company was to drive the heading for a distance of 160 ft. to a spot which they had previously tested by means of a borehole, where they found that the rock-head was about 30 ft. lower than it was in their shaft. The heading, which was 5 ft. high by 2 ft. wide, was commenced nearly at the bottom of the company's shaft at a depth of 190 ft., and was driven on the level from 163 ft., and on April 24 the brine was successfully tapped at this point, and let into the heading. The company intend to further extend the heading, and expect to strike the brine at a still lower level, in which case they will still further increase their supply. The strength of the brine has been taken, and is extremely satisfactory, containing 2 lbs. 10 ozs. of salt to the gallon.

HOLLOWAY'S PILLS—THE GREAT NEED.—The blood is the life, and on its purity depends our health, if not our existence. These pills thoroughly cleanse this vital fluid from all contaminations, and by that power strengthen and invigorate the whole system, healthily stimulate sluggish organs, repress over-excited action, and establish order of circulation and secretion throughout every part of the body. The balsamic nature of Holloway's pill commands them to the favour of debilitated and nervous constitutions, which they soon resuscitate. They dislodge all obstructions, both in the bowels and elsewhere, and are, on that account, much sought after for promoting regularity of action in young females and delicate persons who are naturally weak, or who from some cause have become so.

MANCHESTER GEOLOGICAL SOCIETY. SHOT-FIRING IN MINES.

A meeting of the Manchester Geological Society was held on Saturday in the Mining School at Wigan, for the purpose of discussing a paper read at a previous meeting by Mr. Burrows, of the Atherton Collieries, near Manchester, "On Explosions in Mines."

Mr. HENRY HALL, Inspector of Mines, occupied the chair, and in opening the proceedings remarked that the paper had been partly discussed at the last meeting of the society in Manchester. It contained much useful information with reference to safety-lamps, the use of gunpowder, the proper system of ventilation, and the subject of explosions in mines, with which it dealt generally, was one of the utmost interest to mining engineers.

Mr. BRYHAM said he fully endorsed the sentiments expressed by Mr. Burrows in his paper, which was one well worth the attention of all mining engineers.

Mr. J. S. MARTIN, Inspector of Mines, remarked that there had been a great deal of controversy in the newspapers with reference to the use of gunpowder in mines, and statements had been made that it was impossible to carry on many of the collieries if powder was only to be used when the men were out of the mine. Perhaps some of those present who had practical experience in this matter would favour them with their views on the question, and explain how they overcame any difficulties in connection with the use of powder only when the men were out of the mine. From his own knowledge he knew that it was not impossible to carry on a colliery under such conditions; but if one or two of those present, who were working their collieries, and using powder only when the men were out of the mine, would state their experience, it would come with more authority. He should be glad to hear how two shifts were carried out under this arrangement.

Mr. CALDWELL would like to know whether there were any collieries in Lancashire that were in a position to work two shifts in the present state of trade?—Mr. MARTIN: There are places where they work two shifts and have done.

Mr. GRIMKIE said they were in the peculiar position of working two shifts, but they found some difficulty with regard to shot-lighting, because they did not know the strict definition of the regulations, and whether they applied simply to one division of the mine. That was a question they would like to have answered.

Mr. TONGE said they had a mine worked with the use of powder for getting up the roads. At nine o'clock in the evening, when all the men were out, two persons went down and lit the shots. There were about 34 roads, but these had not to be fired every evening. They found no difficulty in this instance because the shot-firing was not in the coal. If the coal had to be blasted there would be considerable difficulty under such a system.

Mr. GRIMKIE said that in working the system two or three shots had to be put in, so as to ensure sufficient coal being brought down to keep the men filling up during the following day until they prepared their next shots. The only difficulty was to apportion the exact quantity of work. If there was a blown-out shot they had, of to find course, the men another place.

Mr. MARTIN asked what was the arrangements as to firing the shots between the first and second shifts?—Mr. GRIMKIE said that when a man went down at six o'clock he would find the coal at his face blown down; he ought to have coal to go on filling, and then to go on cutting and boring for the next shot, sufficient for the day's work. After he had gone the fireman came, and rammed the shot-hole, after which he fired the shot. The mine was divided into three sections, and this was done in one section of the mine after all the men had gone out.

Mr. TONGE thought that in a thin mine it would be very difficult for a man to get the whole of his coal for the day's work with one shot.

Mr. GRIMKIE said it was very unusual for a man to put in only one shot; the average was three. The chief difficulty was that a larger working space had to be provided in proportion to the number of men in the mine under the old arrangement, when a man would blow one shot, get the coal, then blow another shot, and get that coal, and so on through the day, as now all the coal had to be blown before he went into the pit.

Mr. COCKSON said there was one danger connected with the firing of shots when all the men were out of the pit, and that was the increased risk of firing the mine. Suppose a brattice or a blower of gas were accidentally ignited, there was greater risk of its getting hold with only a couple of men in the mine than there would be if there were a larger staff of men down. Then, again, with only two firemen in the pit, there was greater risk of a spark from a shot unobserved getting under the brattice and ultimately resulting in a fire which might lead to serious disaster. He thought that, apart from the objection that the men were occasionally liable to lose a day's work, the extra risk of setting fire to the mine was a serious one which ought not to be lost sight of.

Mr. PICKARD (miners' agent) said that if he understood the application of shot-firing in the night, it was the duty of the fireman to make a careful inspection of the place after he had fired the shot. If that supervision was not carried out he quite endorsed Mr. Cockson's remarks, but he understood that this supervision was strictly enforced, and in that case the risk of firing the mine was removed.

Mr. COCKSON replied that, after the shots were fired, the fireman had to visit every place in his district, and assuming that the man did his duty there could certainly be less risk; but if they had men constantly employed in the mine during the night, in addition to the shot-lighters, in the case of a fire, instead of having only the shot-lighters to rely upon to put out the fire, they would have a strong staff of men on the spot to render prompt assistance.

Mr. PILKINGTON considered that in a narrow mine, where the ventilation was carried all round the face, it was distinctly a disadvantage to have only the shot-lighters down. The shot-lighters did not always stop to examine which way the coal had fallen, and the large mass of coal lying down at the same time along an extensive fan might prove a serious obstruction to the ventilation unless the men went along immediately afterwards to clear away the obstruction. In some cases it would be actually dangerous to have the ventilation thus obstructed.

Mr. WINSTANLEY said Mr. Cockson had exactly described what had actually occurred at the Limehurst Colliery, Ashton-under-Lyne, where the shots were fired in the night. The firemen ignited a blower, with the result that the pit was set on fire; all the mines had to be flooded, and the colliery was now stopped.

Mr. PICKARD asked what time elapsed before the men reported the fire?—Mr. WINSTANLEY replied that it was reported within a couple of hours.

Mr. PICKARD asked whether he considered that proper supervision?

Mr. WINSTANLEY thought probably the men under the circumstances lost nerve; at any rate, when the fire was got to it was too late.

Mr. HILTON (Wigan Coal and Iron Company) in reply to the CHAIRMAN, said they had not found any difficulty in firing shots at night, when only the firemen were down.

Mr. MARTIN said this question of the use of gunpowder in mines had attracted a good deal of attention on the Continent, and he had received a letter from a friend connected with the Government Mine Commission in Germany, who said it was being seriously discussed whether it was not desirable to prohibit blasting in the getting of coal, on the ground that it would very considerably reduce the loss of life. The writer also believed that such a prohibition would result in other advantages. One disadvantage in connection with blasting was that it gave a small percentage of round coal, and the writer considered that the increased cost of getting by hand would be met by the coal being sent out in a better marketable condition. Over-production would also for a lengthened period be removed, as coal getting by hammer and wedge required more intelligent labour than by blasting it out of the face.

Mr. PICKARD said he felt very much interested in this matter, and he thought their experience justified them in believing that where it was practicable to use gunpowder only in the night-time it was much better both for saving life and property. This was as small a per-

centage of margin between an explosive and a non-explosive mixture in a mine that the most experienced men might be deceived, and when the firemen conscientiously believed they had done their duty they might yet come to grief, and he might say they were justified in believing that the sooner they could see their way to clear themselves out of the powder process the better. The use of powder had been connected with many explosions, and the last one in Durham could be linked to the firing of shots. He was afraid that in connection with mine explosions too much importance was being attached to the presence of coal dust; it was no doubt an aggravating element, but he could not believe that it was the cause of an explosion. The less they could do with powder in their mines the better.

Mr. BURROWS said he felt very pleased with the result of the discussion, because he was afraid he would meet with serious objections on the powder question. He thought the objections which had been raised were more theoretical than practical. They had adopted shot-firing at night for the last six years, and they had the co-operation of the men in carrying out the system. They had worked double turns, but they had never fired a single shot except when only the firemen were down in the pit. They began at six o'clock in the morning, and the men were out at three sharp. The shot-lighters went down at 9:30; they did a lot of dattling, they looked after the men, placing their shot holes, or where they were going to put a hole. After the men had gone the shot-lighter examined all the places; then he began on the return end and fired all the shots. The shot-lighters then came out about six o'clock, and the colliers went in for the second turn at six o'clock. With regard to explosions he had come to the conclusion that gunpowder was the chief cause, and the only way to secure absolute safety to life was to prohibit the use of it when the men were down in the pit. As to the danger of setting the mine on fire, if the mine were a very risky one he should say that powder should not be used in it at all, but in an ordinary mine, with no unusual quantity of gas, and not exceptionally dry, there was little or no danger of this. He was quite aware of all the difficulties in the way of the system, but mining engineers had not been stopped by difficulties, and if they would make up their minds to do without powder in the day-time the difficulties would disappear. He had found no difficulties with the men; even if they made a little less they had preferred the mine worked on this system, because it was safer. Of course, a man must have sufficient room, so that what he could blow at night would last him all day; if they did not do that it was a hardship on the men. It was only a question of opening a little more face. They worked it by allowing two men to have one drawer between them if they preferred. Of course in a thin mine they required more room, and this they must provide. With regard to the risk of firing the mine, he did not see that this should be increased where there was proper supervision. Mr. Pilkington had referred to the possible obstruction of the ventilation. This might be the case in wide work, but it would be just the same if the coal were blown down in the day-time, and he did not think there was much in this objection.

Mr. MARTIN, in answer to Mr. BURROWS, added that about 130 to 150 shifts were fired in a shaft, and the practice was that the shot-lighter fired against the air.

Mr. PILKINGTON, in reply to Mr. BURROWS, said that with shots fired in the day time the coal was being cleared away as it was brought down, and the whole mass was not lying against the face at one time, so that with shot-lighting in the day time, there could not be so much obstruction to the ventilation from this cause. Then, with regard to the increased working space, that was necessary with shot-lighting; at night he thought that this was an element of increased danger. Falls of roof were the most serious cause of the loss of life, and by enlarging the working space they necessarily increased the risk from this cause.

Mr. BURROWS remarked that one advantage of the system was that the men had to make a full day each day he was in the pit, and there was no possibility of hurrying a day and half's work into one day to make up for previous neglect. The result was that each man sent out more coal than he did previously.

Mr. BRYHAM said he had adopted the system of firing shots only in the night-time for the last seven or eight years, and one result had been that instead of firing 500 shots per week under the old system they now only fired about 280, and they got quite as much coal. He could not, however, endorse the statement which had been made that better coal was got by hammer and wedge than by powder; his experience had been quite the opposite. In a thick mine with proper holing, they would get better coal by the use of powder.

The CHAIRMAN, in closing the discussion, repeated the statement he made at the Manchester meeting, that with the most careful supervision and with a shot properly doing its work, volumes of 10 or 12 yards of flame frequently followed the firing of the shot. He felt convinced that if they could only prove to mining engineers that there was a real advantage in firing shots at night he was quite sure they would overcome any difficulty that might stand in the way of adopting the system. He had been much struck by the much better way in which the places were prepared when shots were only fired in the night. It was his opinion that a larger quantity of round coal was got when the shots were only fired in the night.

A short discussion followed with reference to safety-lamps, which turned chiefly upon the best description of lamp for the use of the firemen, and the proceedings terminated.

FATAL FALL DOWN A DISUSED MINE.—An inquest was held by Mr. Grenfell, at the Trelawny Arms, Trow, Breage, on Tuesday, concerning the death of Thomas Benjamin Rowe, aged nine years, son of Samuel Rowe, miner, of Carleen, Breage, who was killed on the 25th ult., by falling down a disused mine shaft in Wheal Vor sett. The deceased, his brother seven years old, and Thomas Gilbert, eight years old, were on the above date playing in a field in the village with a kite. In the field is an old burrow which belonged to Wheal Vor. The hedge of the field and the one adjoining formed a fence about 5 ft. high around the burrow, on the top of which is the shaft, which had been covered over for upwards of 40 years with timber and earth. The boys climbed over the fence on to the burrow, the deceased going first, and by the time the other two got over they saw him fall through the covering into the shaft, and heard him crying out as he was falling, "Save me." They (the two boys) instantly made an alarm, and several men were soon on the spot, and found that a hole large enough to admit the body of a man had been made through the covering of the shaft. A windlass was speedily erected, and the body was soon recovered by means of a rope and grapple. There was a severe wound on the back of the head, and a less serious one on the forehead. He fell a distance of 22 fms. Mr. Frecheville, Inspector of Mines, who had examined the place, stated that he could not see that any person was to blame, as a fence had been put around the shaft, and there was no public road to it or by it—it was about 30 yards from the highway—and that the boys were trespassing by being there; but he did not approve of the shaft unless covered over, for it often proved to be a trap. If the shaft was properly fenced, and the mouth not covered over it would not be so dangerous. The jury returned a verdict of "Accidentally killed." There were many in the neighbourhood who were not aware that there was a shaft in the burrow. For years the women of the village have been accustomed to dry clothes on the furze and bushes which grow on the burrow and around the shaft, quite unaware of the danger to which they were exposed.—*Cornish Telegraph.*

REDUCTION OF MINERS' WAGES IN LANCASHIRE.—The leading colliery proprietors in the Manchester district, who have this month put down their list rates for coal to the level at which they stood last summer, have accompanied this downward movement in prices by a corresponding reduction in wages equal to about 10 per cent. Notices have been served upon the colliers of a reduction of from 2d. to 3d. per ton, and 2d. per yard, and upon the underground day-men of 1s. per week in their rate of wages.

VICTORIAN GOVERNMENT FOUR PER CENT. INSCRIBED STOCK.

ISSUE OF £4,000,000.

Authorised by the Victorian Parliament under the Act 48 Victoria, No. 805, intitled:—"The Victorian Debentures Redemption and Loan Act, 1884," secured upon the Consolidated Revenues of the Colony.

Minimum Price of Issue ... £99 per cent.

First dividend, being six months' interest, payable on the 1st of October, 1885. Principal repayable at par on the 1st of October, 1919.

The LONDON AND WESTMINSTER BANK (Limited) are instructed by the Government of Victoria to RECEIVE TENDERS for the ABOVE STOCK.

The loan is raised for the undermentioned purposes, viz.:—
To provide funds for the redemption of Victorian Government Six Per Cent. Debentures, issued under "The Railway Loan Act, 1857," and falling due in London on 1st October, 1885.....£2,600,000
To provide funds for the redemption of Victorian Government Six Per Cent. Debentures, issued under "The Railway Loan Act, 1857," and falling due in Melbourne on 1st October, 1885 580,630
To provide for certain public works and expenses, as detailed in the Act 48 Victoria, No. 805..... 819,380

The Stock will be inscribed in accordance with the provisions of the "Colonial Stock Act, 1877," 40 and 41 Vict., cap. 59, in the books of the "Victorian Government Inscribed Stock—Four per Cent. Loan of 1884," to be kept by the London and Westminster Bank (Limited), and will be transferable without charge and free of stamp duty at that bank, either by the stockholders personally or by their attorneys. The interest, at the rate of 4 per cent. per annum, will be payable on behalf of the Victorian Government at the London and Westminster Bank (Limited), Lothbury, on the 1st of April and 1st of October in each year, by dividend warrants, which, if desired, can be sent by post to the stockholders, at their risk, and the principal will be payable at the same bank on the 1st of October, 1919.

Stock certificates to bearer of the denominations of £100, £500, £1000, with coupons for the half-yearly dividends attached, will be obtainable in exchange for inscribed stock at the London and Westminster Bank (Limited), Lothbury, on payment of the prescribed fees, and such certificates can be reinscribed as stock at the will of the holder.

The revenues of the Colony of Victoria alone are liable in respect of this stock, and the dividends thereon, and the Consolidated Fund of the United Kingdom and the Commissioners of Her Majesty's Treasury are not directly or indirectly liable or responsible for the payment of the stock or of the dividends thereon, or for any matter relating thereto.—40 and 41 Vict., cap. 59, sec. 19.

Tenders will be received at the London and Westminster Bank (Limited), Lothbury, not later than two o'clock P.M., on Wednesday, the 13th of May, where and when they will be opened in presence of the Agent-General for Victoria, and of such of the applicants as may attend.

The loan will be allotted to the highest bidders, but no tender will be accepted at less than £99 for every £100 of stock the price including accrued interest from the 1st April last.

Tenders must be for even hundreds of stock, and these at a price including a fraction of a shilling other than sixpence will not be preferentially accepted. Tenders at the lowest price accepted will be subject to a *pro rata* diminution.

Payment will be required as follows—namely 25 per cent. on application, and so much on the 20th May as will leave 90 per cent. to be paid on the 21st September, 1885.

Payment may be made in full on the 20th May, or on any subsequent day, under discount at the rate of 3 per cent. per annum.

Victoria Government Six per Cent. Debentures, payable in London on 1st October, 1885, will be accepted as cash for payments on account of this loan, either on allotment or on any subsequent date; but on payments made by means of these debentures there will be no allowance for discount. The coupon of 23 per cent. due 1st October, 1885, on debentures surrendered as above, to be retained by the owner for payment in course at the due date.

Script certificates will be issued after payment of the amount due on allotment, and such certificates will be convertible into inscribed stock on presentation at the London and Westminster Bank (Limited), Lothbury, so soon as they are paid in full.

Copies of the Act creating the loan can be seen at the London and Westminster Bank (Limited), Lothbury, and forms of tender can be obtained at that bank, or at any of its branches.

London and Westminster Bank (Limited),
Lothbury, London, E.C.

May 7, 1885.

NORTH LONDON RAILWAY COMPANY.—The Directors of this company are prepared to RECEIVE TENDERS for the SUPPLY of 1200 TONS of HOUSE COAL, the deliveries to be extended over a period of 12 months, or thereabouts, commencing in July next.

Particulars of the terms and conditions of tender can be obtained on application to the Locomotive Superintendent, at the company's works, Bow-road, London, E.

Tenders, addressed to the undersigned, to be sent in before Ten o'clock on Tuesday, the 2nd June, 1885, marked outside "Tender for House Coal." The Directors do not bind themselves to accept the lowest or any tender.

Euston Station, N.W., 5th May, 1885.

G. BOLLAND NEWTON, Secretary.

THE UNITED MEXICAN MINING COMPANY (LIMITED)

Hereby give notice that on the recent Division of its Shares every effort was made to ascertain the persons who were shareholders in the United Mexican Mining Association at the date of its dissolution in the year 1882, and who have not exchanged their shares for shares in the Company, or made any claim in respect thereof; and that the Company is advised that all claims of such persons (if any) in respect of such shares have long since become barred, and cannot be enforced. The Company, however, gives further notice that, without prejudice to its legal rights, it will be prepared to enquire into any claims that may be sent in to the undersigned on or before the 30th June next, and in respect of such claims as may be made out to the satisfaction of the directors to issue three £10 shares in the company (with £9 17s. 6d. paid thereon, and subject to the payment of the call of 10s. per share and interest), in exchange for such shares in the Association, on the person to whom such shares are issued furnishing such evidence, making such declaration, and giving such discharge as the directors may require as evidence of the transaction; and the company give further notice that no claims sent in after the said 30th June be recognised in any way.

By order of the Board,
DAVID GREENE, Secretary.

3, Great Winchester-street, E.C., May 9th, 1885.

RIO TINTO COMPANY (LIMITED).
DIVIDEND ON SHARES TO BEARER.

Holders of share warrants to bearer are informed that they will RECEIVE PAYMENT of the DIVIDEND declared at the General Meeting held on the 5th instant, at the rate of SIX SHILLINGS per share, free of income tax, on SATURDAY, the 23rd May, 1885, on presentation of coupon No. 11, either at the company's office in London, or at the Societá Generale, rue de Provence 54, Paris, or at the Deutsche National Bank in Bremen.

Coupons for payment in London must be left four clear days previously for examination, and may be deposited on or after the 7th inst.

By Order, R. J. FENNESSY, Secretary.

Offices of the company, 30 St. Swithins Lane, 6th May, 1885.

MINE "EL CALLAO," GUAYANA, VENEZUELA.
2,200 SHARES.

Gold in bars produced in the month of March, 1885, remitted to Messrs. Baring Brothers and Co., London—7640.3 ozs.

DIVIDEND distributed for each share, 10 francs.
(Signed) P. AISTEGUIETA, Vice-President.
(Signed) VICTOR T. GRILLET, Treasurer.

MESSRS J. AND J. RANNER,
BROKERS
LEITH OFFICES, LIVERPOOL.

BUYERS AND SELLERS OF MINES, MINERALS, &c.
COMPANIES FORMED ON EQUITABLE TERMS.

J. A. JONES,
MINING ENGINEER,
GIJON (ASTURIAS), SPAIN.

Mines inspected and reported on. Assays and valuations effected.
Has on hand offers of Mines of Copper, Calamine, Blende, Phosphate
of Lime, Tin, Lead, Iron, Manganese, and Manganiferous
Iron Ores.

MURRAY ASTON,
MINING AGENT,
CHRISTCHURCH, CANTERBURY, NEW ZEALAND.

Mines and other properties in any part of Australasia inspected,
Reports by Government Geologists procured where required.
Terms very moderate, and expense of sending Engineer from
England avoided.

ADDRESS CABLEGRAMS, "ASTON, CHRISTCHURCH."

H. R. LEWIS AND CO.,
MINING OFFICES,

BARTHOLOMEW HOUSE, BARTHOLOMEW LANE, LONDON, E.C.

157, ST. VINCENT STREET, GLASGOW.

Supply accurate and reliable information on all Mines, Home and Foreign.
Execute orders and advise the Purchase or Sale of Mining Securities.
Undertake the Management of Mines or Mining Companies.

INVESTORS WILL AVOID LOSS BY CONSULTING US BEFORE BUYING OR SELLING
MINING SECURITIES.

ESTABLISHED 1871.

JAMESON and WOODS,

CONSULTING CIVIL and MINING ENGINEERS and METALLURGISTS.
Particular attention devoted to Mines and Smelting Works in Europe. A
speciality made of Eastern Europe.

Mines and Works inspected upon and valued on moderate terms.
Plant and Machinery estimated for and erected upon tenders.
Independent Mining Reports made upon properties in any part of the world,
and general advice and counsel given on request.

Address—
27, KING STREET, CHEAPSIDE, LONDON, E.C.

Registered Telegraphic and Cable Address: KOWITCH, London.

ALFRED H. KNIGHT, F.C.S.,
ANALYTICAL CHEMIST AND ASSAYER,
18, CHAPEL STREET, LIVERPOOL.

FEES MODERATE. LIST SENT ON APPLICATION.

HERBERT HARRISON,
STOCKBROKER,

18, TELEGRAPH STREET, LONDON, E.C.

BUYS and SELLS every description of STOCKS and SHARES at
lowest market prices. My Monthly Circular and A B C Guide to the
Stock Exchange should be read by every investor, as it contains safe
and reliable information.

Speculative accounts opened on most favourable terms, with
written guarantee that no loss can exceed the cover deposited, while
profits are unlimited.

ACCIDENT INSURANCE COMPANY (LIMITED),
10, ST. SWITHIN'S LANE, LONDON, E.C.
GENERAL ACCIDENTS. PERSONAL INJURIES.
RAILWAY ACCIDENTS. DEATH BY ACCIDENT.
G. HARDING, Manager.

THE CANADA PACIFIC IRON AND STEEL RAIL
COMPANY.

The Subscriber is desirous of opening communication with some
party in England for the purpose of organising the above company.
One thousand acres of red hematite ore not far from the line of
the C. P. R.

Address, HUBERT C. JONES, Solicitor, Brockville, Ontario Canada

TEA AT WHOLESALE PRICES.—Why pay Grocers and Stores
2s. 6d. per lb. when you can buy direct from importers choice
Ceylon Tea (whole leaf) at 1s. 4d. per lb. Carriage paid. Cash on
delivery. Sample post free 12 stamps.

THE DIRECT TEA SUPPLY COMPANY, Customs Chambers, London,
E.C.

QUICKSILVER-WAVE AMALGAMATOR

APURELY MECHANICAL AND AUTOMATIC PROCESS
treating Gold Ores direct from the Stamps or Pulverisers, and
superceding the use of Copper Plates, Blankets, &c.

One Amalgamator will treat 10 tons per 24 hours; size, with frame,
9 ft. x 3 ft.; weight, under 15 cwt.; power, only 1/2 H.P. necessary;
quicksilver required, 120 lbs. only. Cost of treatment, 3d. to 1s. per
ton of ore.

Price of Amalgamator (ready for immediate use), £100 f.o.b., a
further sum of £150 at end of six months—i.e., after approval—or
£100 then and a further £100 twelve months thereafter. (On royalty
if preferred.)

Amalgamators have been in practical use for upwards of one year.
They save 85 to 95 per cent. of gold, free, or with sulphurets (using
Free Vanners or other concentrators for all ores with sulphurets).

QUICKSILVER-WAVE AMALGAMATOR CO. LIMITED.

Offices: 15, Coleman-street, E.C.—Works: 17, Wharf-road, City-road,
N.B.—This process has the highest percentage of saving; and,
moreover, is the cheapest and most rapid.

W. F. STANLEY

ATHLETICAL INSTRUMENT MANUFACTURER TO H.M.S
GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND
ART DEPARTMENT, ADMIRALTY, &c.

MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every
description, of the highest quality and finish, at the most moderate prices.

Price List post free.

ENGINE DIVIDER TO THE TRADE.

Address GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Advantages in

Slatting & Glazing.

Great Rapidity of

Construction.

WIND, Frost and

EXCLUDED

NO DRIFT

possible.

No Painting

or Re-puttying.

—GREAT

SECURITY IN

STORMS.

APPLY AT

THE OFFICES OF THE

COMPANY.

For PRICES and

PROSPECTUS

30, FINSBURY PAVEMENT, LONDON, E.C.

AGENTS WANTED.



In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862, and of the
HERODSFOT MINING COMPANY.
TO BE SOLD, under the direction of the Registrar of the said Court, on
THURSDAY, the 14th day of May next, at Eleven o'clock in the forenoon, at
the Herodsfot Mine, near Liskeard, within the said Stannaries, subject to such
conditions as shall be then and there produced, the WHOLE of the

MACHINERY, MATERIALS, and EFFECTS

Of and belonging to the said company, now at and upon the said Mine,
comprising:—

ONE 60 inch cylinder PUMPING ENGINE, 10 feet stroke, with 3 boilers of
12 tons, 15 tons, and 8 tons respectively; 1 22 inch steam whelm, 7 feet stroke,
with fly wheel and iron cage complete; 1 6 inch ditto; 1 double gear drawing
machine; 1 60 feet shears and pulleys; 1 40 feet poppet heads with pulleys;
1 8 arm capstan balance bob; winch and chain; 200 fathoms steel wire rope;
water wheels of 22 feet, 20 feet, 18 feet diameter, and other sizes; 2 stamps axes,
with 24 heads stamps; crusher; jiggling machine; extensive dressing floors,
with the necessary appliances of round and other buddles &c.; weighing
machines; launders; 9 feet 12 inch pumps; 9 feet 9 inch ditto; 8 inch ditto;
8 inch doorkops; 8 inch matching; smiths' bellows; wood sheds; iron screens;
round iron riddles and iron plates; double and single blocks; lifting jacks;
new and old steel; new and old iron; new and old timber; account house and
office furniture, and a quantity of other mining effects.

After the sale of the preceding effects there will be offered for sale:—
ONE 24 inch ROTARY ENGINE, 7 feet stroke with fly wheel, iron cage, and
1 10 ton boiler, belonging to the North Herodsfot Mining Company, and now at
the North Herodsfot Mine, and near the before mentioned Herodsfot Mine.
To inspect the above apply to the Bailiff in charge at the Mines, and for
further particulars at the office of the Registrar.

HODGE, HOCKIN, and MARRACK, Truro
(The Solicitors in the said Matter.)

Dated Registrars' Office, Truro, 29th April 1885.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 to 1880,
and of the OWEN VEAN and TRUGURTHA DOWNS MINES
(LIMITED).

Notice is hereby given, that a PETITION for the WINDING-UP of the
above-named company by the Court was, on the 2nd day of May instant, pre-
sented to the Vice-Warden of the Stannaries by the said company, whose re-
gistered offices are situated at Bartholomew House, Bartholomew-lane, in the
City of London, and that the said petition is directed to be heard before the
Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries on
TUESDAY, the Nineteenth day of May instant, at Eleven o'clock in the forenoon,
and any creditor or contributory desirous to oppose the making of an
order for the winding up of the said company under the above Acts should
appear at the time of hearing by himself or his counsel, solicitor, or agent, for
that purpose, and a copy of the petition will be furnished to any creditor or
contributory of the company requiring the same by the undersigned on pay-
ment of the regulated charges for the same.

P. HEARLE COCK, Truro, Cornwall;
Agent for Snell, Son, and Greenup, 1 and 2, George-street, Mansion House,
London, E.C., Solicitors for the Company.
Dated Truro, the 5th day of May, 1885.

In the High Court of Justice—Chancery Division.

IN the MATTER of the ALMADA AND TIRITO CONSOLI-
DATED SILVER MINING COMPANY (LIMITED); and in the MATTER
of the CONSOLIDATED COMPANIES ARRANGEMENT ACT, 1870; and of the
COMPANIES ACT, 1862.

Notice is hereby given, that pursuant to the directions of the Vice-Chancellor
Sir James BACON, a MEETING of the debenture-holders of the above named
company will be HELD on FRIDAY, the 22nd day of May, 1885, at Two o'clock
P.M., at the office of the said company, 47, Finsbury Circus, in the City of London,
for the purpose of considering a compromise or arrangement between the said
company, and the creditors of the said company, whereby £80,000 fully paid
shares of £1 each in the Almada and Tirito Company Limited (a new company
formed for the purpose of taking over the business and property of the above
named company) are to be issued to the said debenture-holders in satisfaction of
all claims in their debentures (amounting to £2000), the half-year's interest to
the 31st of December last to be paid in cash, the particulars of which compromise
or arrangement are expressed in and authorised by the special resolution (No. 3)
of the above named company, passed on the 10th of April, 1885, and confirmed
on the 27th of April, 1885, and for the purpose of passing a resolution agreeing
to such compromise or arrangement, if the meeting should think fit, at which
time and place all the debenture-holders of the company are requested to attend.

A copy of the said special resolution may be seen at the office of the said com-
pany, 47, Finsbury Circus aforesaid, between the hours of Ten in the forenoon
and Twelve o'clock at noon in each week day prior to the day of meeting.
The said Judge has appointed Mr. WILLIAM MARTINEAU to act as Chairman
of the meeting.

EDWARD D. MELLOR, Chief Clerk.

Dated the 5th day of May, 1885.

ELIGIBLE INVESTMENT—TAVISTOCK, DEVON.

WARD and CHOWEN will SELL, BY PUBLIC AUCTION, on
TUESDAY, the 12th day of May, 1885, at Three o'clock P.M., at the
Queen's Head Hotel, Tavistock, the WARD and CHOWEN PLANT, MINE MACHINERY,
and MATERIALS, together with the MINE SETT known as

WEST CREBOR MINE,

Tavistock, Devon, which will be offered as a going concern in One Lot, viz.:—
ONE 30 inch cylinder ROTARY ENGINE, 3 feet stroke, with 10 ton boiler and
drawing machine attached, 15 fathoms of 3 and 5 inch pitwork, including 2
2 inch and 1 1/2 inch plunger rods, 80 fathoms of 5 and 7 inch main rods, shaft
rolls, rod and flange bolts, 100 fathoms 5/8 short link chain, 140 fathoms 3 inch
steel wire rope, 2 balance bobs, 100 fathoms ladders, shaft tackle, 33 inch smiths'
bellows, anvil and vice, screw and stocks, office, carpenter and smiths' shops
(constructed of wood), crab winch, bridge rails, and various other articles.
The mine is held under a lease granted by H. W. Blanford, Esq., for a term
of 21 years, 18 of which are unexpired, subject to an annual dead rent of £30,
which merges into dues.

For viewing, apply on the Mine; and for further information and particulars
respecting the set or conditions of sale either to Captain JOHN ASKREW, New-
road, Tavistock; Mr. THOMAS HOSWELL, 20, Princess-square, Plymouth; or to
the Auctioneers, residing at Burnville, Bristow.

Dated 12th April, 1885.

THE LIQUIDATOR of the TUSCAN COPPER COMPANY
(LIMITED) is prepared to RECEIVE OFFERS for the COMPANY'S
MINES in Tuscany.

1st.—The Vallerano Mine, situate in the commune of Murlo, province of
Sienne, and extending to about 1000 acres. The concession is for a period of
20 years from 15th May, 1883, at a royalty of 10 francs per ton for the first
1000 tons, and 25 francs thereafter; but no year's payment to be less than 500
francs.

2nd.—Il Santo, lying about four miles south of Vallerano, in the commune of
Monticione, and extending over 300 acres. The concession is for 31 years from
1st October, 1881, and the royalty is 20 francs per ton; but no year's payment is
to be less than 3000 francs.

The ore can be dressed to a high percentage on the spot, and the above men-
tioned royalties are only payable on the actual mineral exported.

Labour is abundant, and wages extremely low, and the ore can be easily conveyed
by the Murlo Coal Railway to Leghorn, the port for shipment, 11 francs per ton
covering railway carriage.
The mines have been worked by the company, and proved to contain valuable
deposits of copper.

Analyses of the ore have been made by eminent chemists, showing a very
satisfactory result, and copies of these can be seen at the office of the Liquidator,
along with copies of the concessions, particulars of shipments, and reports on
the properties by Signor Gattardo, the Engineer and Professor of Mineralogy,
at Florence, Monsieur L. Bidon, M.E. and M.G.S.E., and Mr. E. Currie Gregory,
of London, M.E. and F.G.S. These gentlemen have all reported most favourably
of the mines.

For further particulars apply to—

DAVID RATRAY, C.A., Liquidator.
Gresham House, 45, West Nile-street, Glasgow, 29th April, 1885.

TO COLLIERY PROPRIETORS AND OTHERS.

TO BE SOLD BY AUCTION BY

MR. JOHN MACK LEEDER, at the Mackworth Arms Hotel,
19th street, Swansea, in the county of Glamorgan, on TUESDAY,
the 19th day of May, 1885, at 2.30 for Three o'clock, unless previously disposed of
by private contract, subject to conditions to be then produced, all that

LEASEHOLD COLLIERY

Known as the Bishwoll Colliery, situate in the parishes of Loughor and Swan-
sea, in the county of Glamorgan, together with 50 coke ovens, two dwelling
houses, offices, engine and boiler houses, smithy, joiners' shop, four-stalled
stable, storehouse and workshops, with the costly steam engines, boilers, plant,
and machinery for working the same.

The colliery comprises mines under an area of 450 acres or thereabouts, which
as to 255 acres or thereabouts are held under lease from the Earl of Darnley
for 30 years, from the 25th of March, 1871; as to 142 A. 1 R. 29 P. or thereabouts,
under lease from C. R. M. Talbot, Esq., for 60 years from the 24th of June, 1872;
and as to 64 A. 1 R. 5 P. or thereabouts, under lease from the Duke of Beaufort for
21 years from the 29th of September, 1872.

The premises will be sold subject to the rents and royalties, and to the leases,
covenants, and conditions reserved and contained in the said several leases and
deeds, varying the terms thereof, and the nature of such covenants and condi-
tions may be ascertained by an inspection of the respective leases which will be
produced by the solicitors at or before the sale.

The colliery is situate about 5 1/2 miles from the port of Swansea, and the same
from Llanelli, with ample accommodation by means of slings in connection
with the Great Western and London and North-Western Railway, and in the
immediate neighbourhood of copper, tin, steel, and other large coal consuming
works.

A detailed list of the coal trams, tools, stores, rails, both underground and on
the surface, together with coal wagons and other articles which the purchaser
may purchase at a valuation in the usual way, will be produced at the sale.

For further particulars apply to Messrs. SLATER, TURNBULL, and SLATER,
Solicitors, 87, Mosley-street, Manchester; or to Mr. JOHN MACK LEEDER,
Oxford-street Swansea.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF FRANK NEWBY WARDELL, Esq.,
H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for
MANAGERS' CERTIFICATES OF COMPETENCY, under the above-
named Act, will be HELD on the 23rd day of June next, and CANDIDATES
INTENDING TO PRESENT THEMSELVES AT SUCH EXAMINATION must,
on or before the 1st day of June next, notify such intention to the Secretary of
the Board of the above-mentioned District, from whom all information as to
particulars can be obtained.

By order of the Board,

JOHN R. JEFFERY, Secretary.

5, Piccadilly, Bradford, 28th April, 1885.

N.B.—Persons who do not reside within the District are equally eligible for
examination with those who do.

MINERALS IN THE WEST OF FIFE TO BE LET.

TO BE LET, the BLACKBAND IRONSTONE, COAL, LIME-
STONE, and FIRE-CLAY in the lands of Nether Kinnedder, or such parts
thereof as may be agreed on.
The lands extend to upwards of 1000 acres, are situated in the parish of Sa'ine,
and within a mile and a half of Oakley Station on the line of the Stirling and
Dunfermline Railway.

Blackband ironstone of superior quality, gas coal, and common coal have been
wrought for some years in the adjacent lands of Comrie, and limestone has been
wrought on the property.

DAVID ROBERTSON, Forester, Kinnedder, will point out the boundaries of the
property; and for further particulars application may be made to ROBERT
THOMAS MOORE, Mining Engineer, 134, St. Vincent-street, Glasgow; or TRA-
QUAIR, DICKSON, and M'LAUREN, W.S., 11, Hill-street, Edinburgh.

THE BORROWDALE PLUMBAGO MINES,
CUMBERLAND.

TO BE SOLD, BY PRIVATE TREATY, the unexpired term of
35 years in the above old and celebrated Mine.

For further particulars, apply to WM. HOPES HEELIS, Solicitor,
Hawkshead, Ambleside; or to E. T. HARGRAVES, Esq., 18, South-
ward-street, London Bridge, London, S.E.

STANDARD ORE CRUSHER—UNIVERSAL PULVERISER.

FOR SALE, the STANDARD ORE CRUSHER, 12 x 6,
with Elastic Steel Connecting Rod.

Also, ONE 20 inch UNIVERSAL PULVERISER. Will reduce
to powder any refractory material, wet or dry, Tin Ores, Quartz, &c.
Apply,—

C. E. HALL, STANDARD IRONWORKS, SHEFFIELD.

IMPORTANT TO MINE OWNERS.

NEW PAIR of 11 inch cylinder VERTICAL ENGINES FOR
SALE at a low price, suitable for Pumping, Hauling, or
Winding.

WARSOP and HILL, NOTTINGHAM.

FOR SALE, owing to alteration of Premises:—
One GREEN'S ECONOMISER, 72 pipes; all in good working
order; 100 lbs. pressure.
May be seen working at 27, Edmund-street, Liverpool.

SECOND-HAND PORTABLE, SEMI-PORTABLE, AND
VERTICAL ENGINES. Several 4, 5, 6, 7, 8, 9, 10, and 12-
horse power in a thorough state of repair and first-class working
condition, TO BE SOLD CHEAP.

N.B.—New Engines, of all sizes, from 1 1/2 H.P. to 200 H.P. at re-
duced prices, in stock or in progress of manufacture.
Apply to ROBEY and Co., Engineers, Globe Works, Lincoln.

FOR SALE, several good SECOND-HAND ROCK DRILLS, in
thorough state of repair, equal to new. WILL BE SOLD
CHEAP. Also first-class NEW AIR COMPRESSOR, with steam
engine combined. Low price to immediate purchaser.

Address, JOHN PARAMOR, Rickmansworth, Herts.

AGENTS WANTED TO PUSH FIRST-CLASS MACHINERY
OILS commanding a large and successful sale. Liberal
commission.
Address, "Box 22," Post Office, Liverpool.

WANTED, AN ENGINE AND BOILER, suitable for driving
20 heads of Cornish Stamps; also 16 or 20 head Stamp
Axle, with Stamps, &c., complete and ready for working.
Apply, stating cash terms and full particulars to Wheal Benny
Mining Company (Limited), 10, Old Jewry Chambers, London, E.C.

WANTED, for a small Lead Works, a MANAGER, with a
practical knowledge of Lead Smelting and Manufacturing.
He would be required to constantly oversee the workmen. A free
house, but no other perquisite given.

Reply, stating salary, and enclosing copies of testimonials, to
"Manager," MINING JOURNAL Office, 26, Fleet-street, London.

THE ADVERTISER, who has just returned from Algeria, can
highly recommend a BROWN HEMATITE ORE CONCESSION
in the above country close by the sea. Estimated over 150,000 tons
of 53 per cent. ore now in sight.

For full particulars apply to "J. E.," Bodmin-road, St. Austell.

W. T. RICKARD, F.C.S., &c., will start for MONTANA and
CALIFORNIA on or about 16th May; and requests parties
desiring Reports on Mining Properties in these and other Pacific
States and Territories to communicate with him at No. 1, Downham
Villas, Stanstead-road, Forest Hill, S.E.
After 16th May address, Anaconda, Montana, U.S.

SECRETARYSHIP.

THE ADVERTISER, experienced in Administration of Joint-
stock Companies, is in a position to UNDERTAKE the
SECRETARYSHIP of one or two companies, and to provide office
accommodation.

For particulars, apply to A. S. STUART, 5, Westminster Chambers,
Victoria-street, S.W.

HARRY TEAGUE, M.E. (late of Africa), is OPEN to MANAGE,
INSPECT, and SURVEY MINES at home or abroad; 19 years'
practical experience in Tin, Copper, Iron, and Gold Mines. Know-
ledge of Spanish and accounts; testimonials from highest mining
authorities; 15 Government Certificates; age 34; moderate salary.
Address—Redruth, Cornwall.

EXPERIENCED MINE ACCOUNTANT and AGENT shortly at
liberty. Competent to manage commercial department
mining property at home or abroad. Understands thoroughly the
Spanish language and Spanish mining laws.

Address, "Rey," MINING JOURNAL Office, 26, Fleet-street,
London, E.C.

MEXICO.

JOHN PETHERICK, a Cornish Mining Engineer, after a visit to
this country for his health, is about to return to that Republic,
and is prepared to INSPECT, SURVEY, and faithfully REPORT
ON Mining or other Properties on reasonable terms.

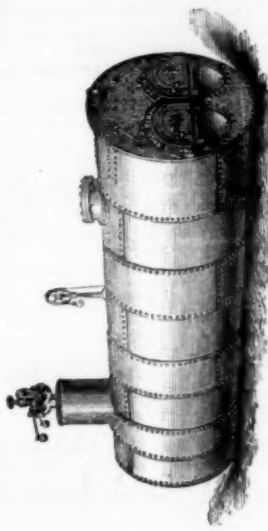
Having had over 18 years' experience in the country, he is conse-
quently able to give an opinion likely to be of value to those who
may honour him with their commission.

TANGY'S LIMITED

LONDON: 35, Queen Victoria Street.

"TANGVES" CORNISH STEAM BOILER.

"TANGVES" CORNISH STEAM BOILER.



Each Boller is tested by hydraulic pressure to 100 lbs. per square inch before leaving our works.

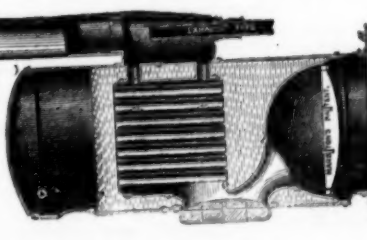
For convenience of shipment this Boiler is also supplied in halves, or in loose plates ready punched, fitted, and marked for rivetting together on arriving at destination.

Nom. H.P.	Size.	Length of Tubes.	No. of Tubes.	Heating Surface.	Price.	Price, lagged with steel, and painted in a super- ior manner.
4	50 in. x 24 in.	48 in.	12	48 sq. ft.	£ 40	£ 44
6	50 " x 27 "	50 "	16	66 "	45 "	51 "
8	50 " x 30 "	51 "	20	114 "	60 "	68 "
10	50 " x 33 "	51 "	24	230 "	90 "	99 "
12	50 " x 36 "	51 "	28	240 "	105 "	116 "
14	50 " x 39 "	51 "	32	280 "	120 "	132 "
16	50 " x 42 "	51 "	36	320 "	135 "	147 "
18	50 " x 45 "	51 "	40	360 "	155 "	172 "

THIS PRICE INCLUDES THE FOLLOWING FURNACE AND STEAM FITTINGS, VIZ.: Cast iron furnace front and door, bearers, dead-plate, and fire-bar, wrought-iron chimney 7 ft. long, smoke-box and ash-pit door and damper, mud-hole covers and cross-bars, safety valve, stop valve, back pressure valve, glass water gauge, two trial cocks, blow-off cock, dial pressure gauge, fire-brick lining, and bridge and tube brush.

INJECTOR OR FEED PUMP, extra.

NEW YORK CITY



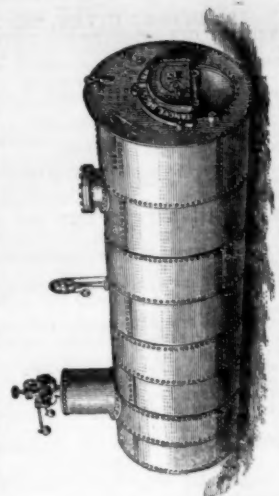
Each Boiler is tested by hydraulic pressure to 140 lbs. per square inch before leaving our Works.

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Horse power.	Length.	Diameter of flue.	Thos.	Dom.	Furnaces.	£
8	ft. 5	0	28	24	1. 26	125
12	7	3	33	26	1. 33	145
20	8	5	40	28	1. 33	210
30	9	8	80	36	2. 32	240

covers and cross-bars, scum-cock and slop valve, back pressure valve, glass water gauge, two 10 ft. long, safety-valve, stop valve, scum cock and collecting pan, dial pressure trial cocks, blow-off cock and bend, scum cock and collecting pan, dial pressure gauge, fusible plug, tube brush, and steam whistle.

If fitted with Dead Weight or Spring Safety Valves, extra. **47**



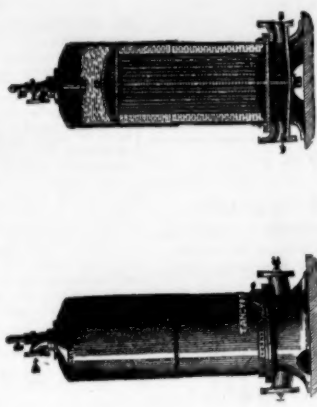
This Boiler is made of "B" Steel and has the following specifications: "BB" and "BBB" iron rivets used in all joints. The boiler is tested by hydraulic pressure to 150 lbs. per square inch before leaving our Works. A working tracing is supplied, with particulars of this in brickwork.

For convenience of shipment this Boiler is also supplied in halves, or in loose sections, which are then punched, fitted, and marked for riveting together on arriving at destination.

Size.	Horse-power.	Length.	Diam.	Diam. Tubes.	Diam. Dome.	Height.	Weight.	Price.
O	4	9 ft.	3 ft. 3 in.	20 in.	16 in.	22 in.	27 cwts.	£48
D	6	10 ft.	3 ft.	21 in.	18 in.	24 in.	32	56
E	8	12	3	24	20	26	42	65
G	10	14	4	26	22	28	50	75
H	12	4	3	28	23	30	60	85
I	16	17	4	32	25	32	76	102
J	16	19	4	31	25	34	86	114
K	22	21	4	31	25	33	98	128
L	22	21	4	32	27	35	113	145
M	28	24	5	1	27	35	130	165
N	32	24	5	1	28	35	145	185

THE PRICE INCLUDES THE FOLLOWING FURNACE AND STEAM FITTINGS, ETC.:
Wrought-iron furnace front, with cast iron door, heater, dead-plate, fire-brick damper and refractory, cast iron water gauge, stop valve, back check, pressure gauge, and safety valve; two trial cocks, blow-off cock and bend, discharge pipe, and flange; anti-priming pipe, in place of Dome, if preferred; and fusible pipe. Anti-priming Pipe, in place of Dome, if preferred.
If with Low Moor Iron over fire, or arranged for burning wood, extra.
Galloway Tubes to any of above Boilers, 58¢ per Tube extra.

INJECTOR OR FEED PUMP, extra.



In this Heater the tubes are of solid drawn brass or copper and are free to expand or contract. The difference between the expansion of brass and steel prevents the adherence of the latter to the tubes, thus keeping them clean and their heating surfaces always effective. The castings for the boiler plate, double riveted, are of the same material as the tubes. The Heater is fitted with mud cock in all but the first two sizes. The Heater is fitted with mud cock and a hand-hole, by means of which it may be cleaned out, also blow-off cock and feed relief valve.

The tubes present an area considerably in excess of that of the exhaust pipe, thus preventing back pressure.

Diam. Exhaust Pipe	Ins.	2	2½	3	3½	4	4½	5
" " Casing	"	13	18	22	26	30	33	36
Length Casing	"	39	48	54	60	66	72	78
Price	£	19	25	30	36	42	50	58
Diam. Exhaust Pipe	Ins.	6	7	8	9	10	12	14
" " Casing	"	78	84	97	105	120	135	150
Length Casing	"	72	84	97	105	120	135	150
Price	£	65	85	105	120	135	170	220

Each Hoister is tested by hydraulic pressure to 140 lbs. per square inch before leaving our Works.

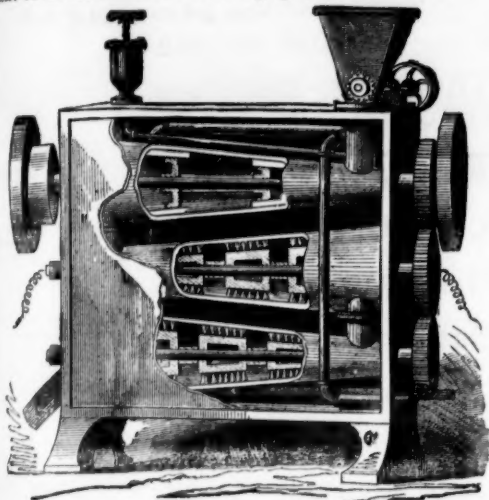
Each Heater is tested by hydraulic pressure to 140 lbs. per square inch before leaving our Works.

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NOVEL ELECTRO METALLURGICAL MACHINE.

PROFESSOR JAMES MANES AND SONS call the attention of miners, mineowners, capitalists, and others interested in the working of gold or silver mines to their new Electro Metallurgical Machine for extracting fine and rusty gold from sands or tailings of stamp mills, or the sands of hydraulic gold diggings, or from the black sands on the coast of Oregon or California, and other parts of the world where gold is found.

The problem that has long troubled the worker of free-milling gold and silver ores is a method to save the mineral now lost in the tailings of stamp mills or flumes. This alone, if it could be saved, would amount to many million dollars profit each year, besides enabling the working of much territory which is now lying idle for want of an economical and thorough process of treatment.



Prof. James Manes and Sons, of Denver, Colorado, U.S., have invented a machine (represented in the above engraving) which it is claimed will save nearly the entire amount of mineral which passes through it, the loss not being over 10 per cent., and in many cases not in excess of half that amount. The machine is a cheap and practical process—it never need stop for charging or cleaning up, being nearly self-acting. Steam, electricity, and mercury are used in the process of extracting the mineral.

This machine or amalgamator is adapted for free-milling gold or silver ores, or refractory after roasting. It consists of a series of three or more large cylinders, wider at one end than the other, placed one above the other in a horizontal position, a shaft or spindle running through the centre of each. The ore and mercury are fed into the first cylinder, passing into the second, and then to the third. The first cylinder is furnished with steel mullers which nearly touch the sides of the cylinder, and revolve at a good rate of speed, mixing the mercury and ore. The second cylinder is furnished with large steel brushes attached to the shaft or spindle, revolving at a high rate of speed; through this a current of electricity is furnished by a Westinghouse dynamic electro machine, which materially assists in gathering the particles of very fine gold together, and thoroughly amalgamating the metal and mercury. The third cylinder is similarly furnished to the second; into this the amalgam passes, and is again acted upon and mixed by the brushes to catch any gold which might have escaped amalgamation in the second. A fourth cylinder may be used found necessary.

The amalgamated pulp then passes through a revolving copper drum, plated with quicksilver inside. As the drum revolves it takes up the most part of the amalgamated gold. As the inside of the drum is constantly washed with a spray of water from perforated pipes fixed inside of said drum, a clean-plated surface is constantly brought in contact with the pulp or tailings as it passes out from the cylinders. After leaving the drum it falls down on to incline copper plates, the same as is now used in stamp mills.

The amalgam can be collected from the drum and plates without stopping the machine, and any live quicksilver that passes will be caught in syphons. The tailings are carried off with the water. The machine when attached to the flume will be driven by the waste water; it sifts the fine sands from the coarse gravel, and amalgamates it as above.

The specific points claimed by Prof. Manes and Sons in their patent are—

- 1.—The saving of almost all the mineral passing through the machine.
- 2.—The loss being less than 10 per cent.
- 3.—The entire absence of loss of the amalgamated material, thereby saving all the mercury, which, with the processes now in use, there is a large loss both of mercury and the precious metal.
- 4.—The small cost per ton at which the ore can be treated.

By the addition of the powerful current of electricity that passes off the revolving brushes, the most minute particles of gold will be caught and retained, which in the ordinary flume and stamps passes off with the water; this often amounts to a large percentage.

The inventors state that if English stock companies will give their assistance to work the black sands of Oregon and California by paying for the building of the machines, they will take a share of the gold for their services, or they will send their machines to any part of the world, or will sell patent rights to those desiring any of their patent machines or revolving furnaces for roasting or smelting ores, ball pulverisers, &c.

Prof. James Manes and Sons are agents for the Morey and Sparey Ball Pulveriser, that crushes and pulverises at the same time, and does as much work as eight stamps in a day, crushing either wet or dry.

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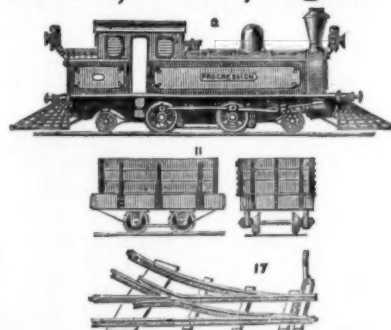
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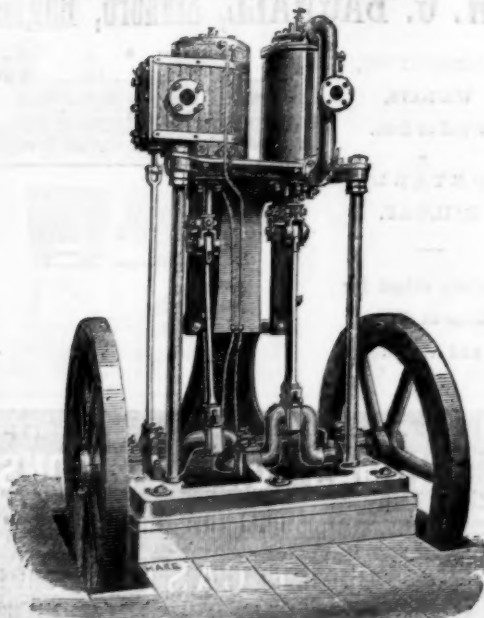
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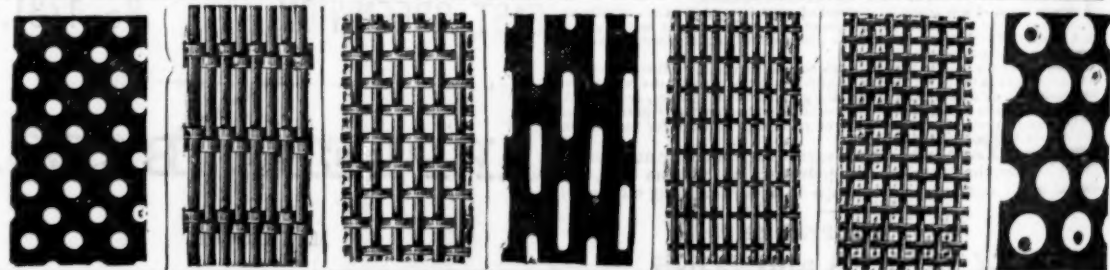
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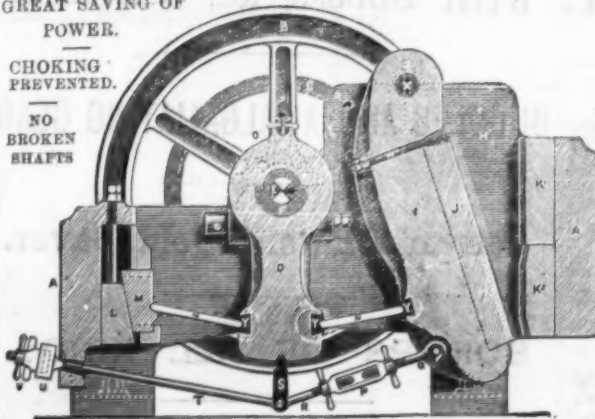
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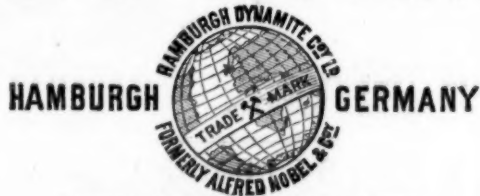
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We are the exclusive owners of All the Mines producing the famous LEHIGH ZINC ORES of the Lehigh Valley, Penn., which are the Purest in the World, making a Soft, Ductile Spelter, Free of Lead and Arsenic, superior in all respects to any other made, and especially adapted for the manufacture of

Cartridge Metal, German Silver, Castings,
AND ELECTRICAL PURPOSES.

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21, STATE STREET, Opposite Battery Park, NEW YORK.



DESCRIPTIVE LISTS WITH
TERMS AND SAMPLES ON APPLICATION.

This highly reputed Fuse is in constant demand for every description of Blasting in all parts of the world.

REGISTERED TRADE MARK
A RED THREAD RUNNING THROUGH THE CENTRE OF THE FUSE.

THE BLAKE-MARSDEN NEW PATENT IMPROVED STONE BREAKERS AND ORE CRUSHERS.

ORIGINAL PATENTEE
AND ONLY MAKER**H. R. MARSDEN,**
NEW PATENT FINE CRUSHER OR PULVERIZER,ALSO PATENTEE AND ONLY
MAKER OF THE

FOR REDUCING TO AN IMPALPABLE POWDER, OR ANY DEGREE OF FINENESS REQUIRED.

GOLD QUARTZ, SILVER, COPPER, TIN, ZINC, LEAD,

AND ORES OF EVERY DESCRIPTION

PATENT REVERSIBLE CUBING and CRUSHING
JAWS, IN FOUR SECTIONS,
WITH PATENT FACED BACKS, REQUIRING
NO WHITE METAL IN FIXING.CRUCIBLE CAST-STEEL CONNECTING RODS.
RENEWABLE TOGGLE CUSHIONS, &c.

OVER 4000 IN USE.

EXTRACTS FROM TESTIMONIALS.
PULVERIZER.

"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put in a small paving stone and bring it out like flour."

"In reply to your favour, I have much pleasure in informing you that the 12x3 Pulverizer we had from you is giving us every satisfaction. The material we are operating on is an exceptionally hard one. I am well satisfied with its working."

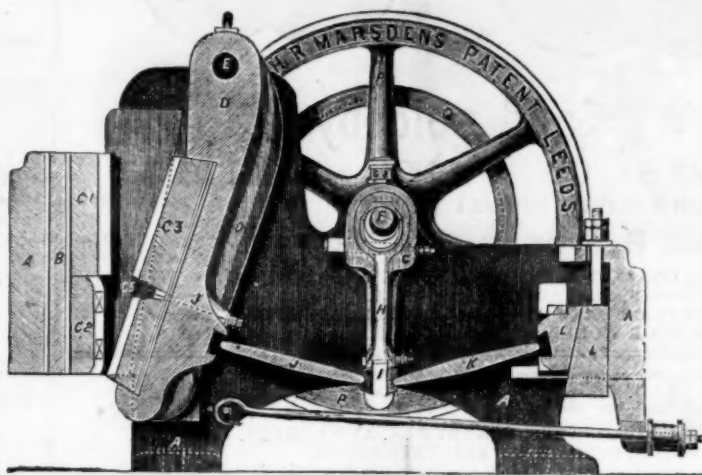
"Our experience is that the motion and mechanical arrangements of your machine are the best for pulverizing that we have ever met with."

"The reports from our mines as regards the working of your Fine Crusher (20x5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might say how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect pulverizer."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam, and our engine, which is a 12-h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

Also Cement, Barytes, Limestone, Chalk, Pyrites, Coprolite, &c., &c. These Machines are in successful operation in this country and abroad, and reference to users can be had on application.



GREATLY REDUCED PRICES ON APPLICATION.

FOR CATALOGUES, TESTIMONIALS, &c., APPLY TO THE SOLE MAKER,

H. R. MARSDEN, SOHO FOUNDRY, LEEDS.

AWARDED OVER

60

FIRST-CLASS GOLD AND SILVER MEDALS.

ADOPTED BY THE PRINCIPAL CORPORATIONS, CONTRACTORS, MINING COMPANIES, &c., IN ALL PARTS OF THE WORLD.

ROAD METAL BROKEN EQUAL TO HAND, AT ONE-TENTH THE COST.

EXTRACTS FROM TESTIMONIALS.—STONEBREAKER.

"I now order Three of your Stone Crushers, size 15 x 10, to be of your very best construction, and to include two extra sets of Jaws and Checks for each. The last two 24 x 13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of yours thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible; I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government. Many of the contractors have spoken to me in reference to their capabilities, and I could only tell them that they are by far and away the best and most economical I ever used. The very fact of me having purchased now Eleven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers, is sufficient guarantee of the capabilities and the working of your machines. Yours in every way surpasses all others."

"Some of your testimonials do not give your machines half their due. I have seen men hammering away on a big rock for a quarter of a day which your machine would reduce to the required size in a quarter of a minute. I would guarantee that your largest size machine would reduce more of the Cornish tin capels (which is the hardest rock of England) in a day than 200 men, and at 1-25th the cost."

JOHN CAMERON'S

FLY-WHEELS ON BOTH SIDES.

SPECIALITIES ARE HIS

STEAM PUMPS
FOR
COLLIERY PURPOSES.

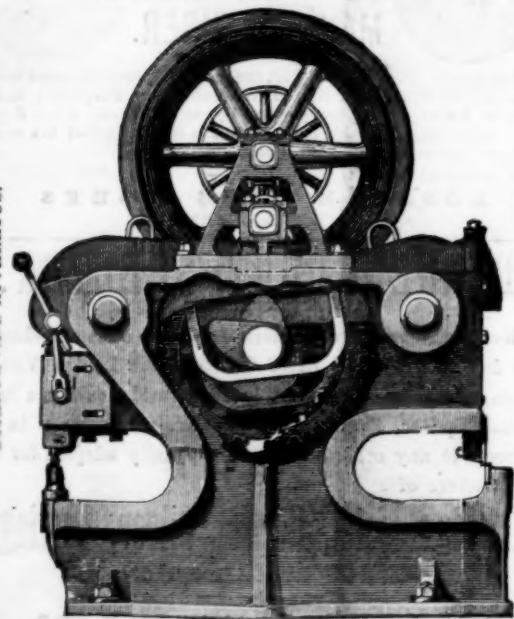
Specially adapted for forcing Water any height

ALSO, FOR

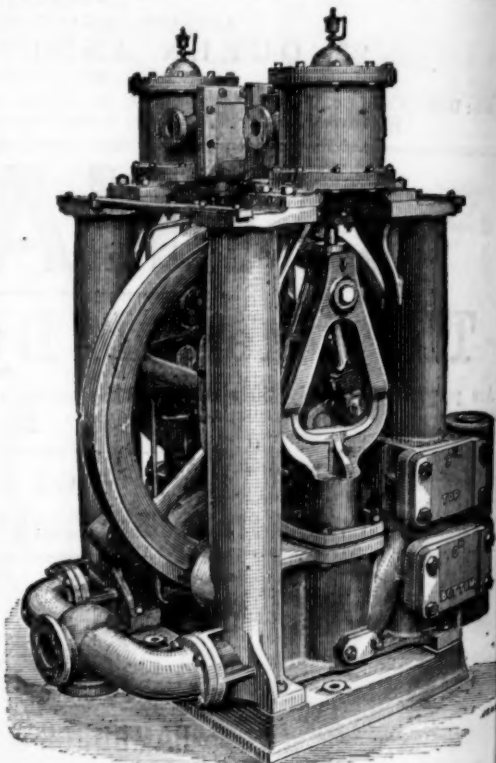
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FIRE ENGINES,**

Of which he has made over 9000.

ALSO, HIS

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PUNCHING & SHEARING MACHINES.****Works: Oldfield Road, Salford,
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By a special method of preparation this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

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LONG LANE, SOUTHWARK, LONDON.

Prize Medals, 1851, 1855, 1878, for

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North Central Wagon Company,
ROTHERHAM.

ICKLES WORKS, NEAR MABBORE (Midland Railway).

The restoration of the above Works since the recent fire is in rapid progress.

Work has been fully resumed. Repairs are executed with the usual thoroughness and despatch.

The Directors are prepared to maintain the Wagons of their customers by contract or otherwise on all the principal Railways in the country.

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ESTABLISHED 1825.

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WOLVERHAMPTON.

MANUFACTURERS OF

Lapwelded & Buttwelded Wrought-iron, Steel, or Homogeneous Tube

FOR EVERY

COLLIERY OR MINING PURPOSE.**J. WOOD ASTON AND CO., STOURBRIDGE**

(WORKS AND OFFICES ADJOINING CRADLEY STATION),

Manufacturers of

CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPAD

FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS,

RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.

Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions.

WELDED STEEL CHAINS { FOR CRANES, INCLINES, MINES, &c.,
MADE ALL SIZES.